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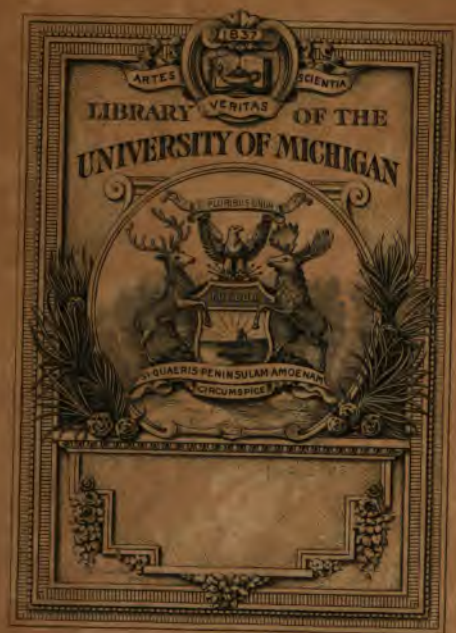
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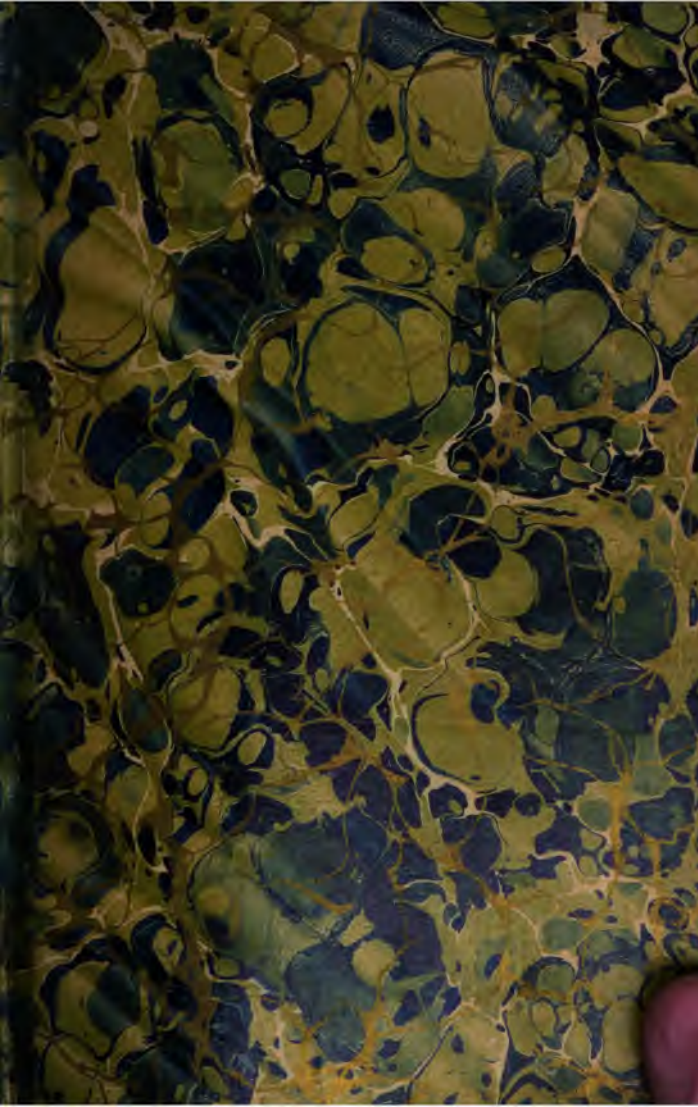
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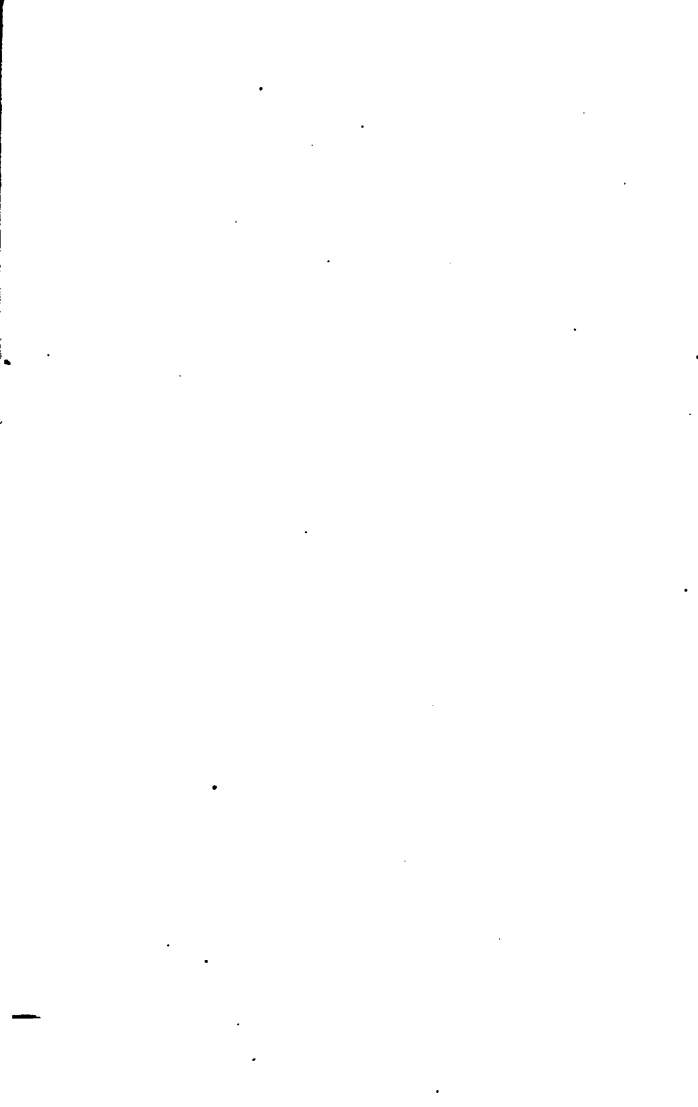
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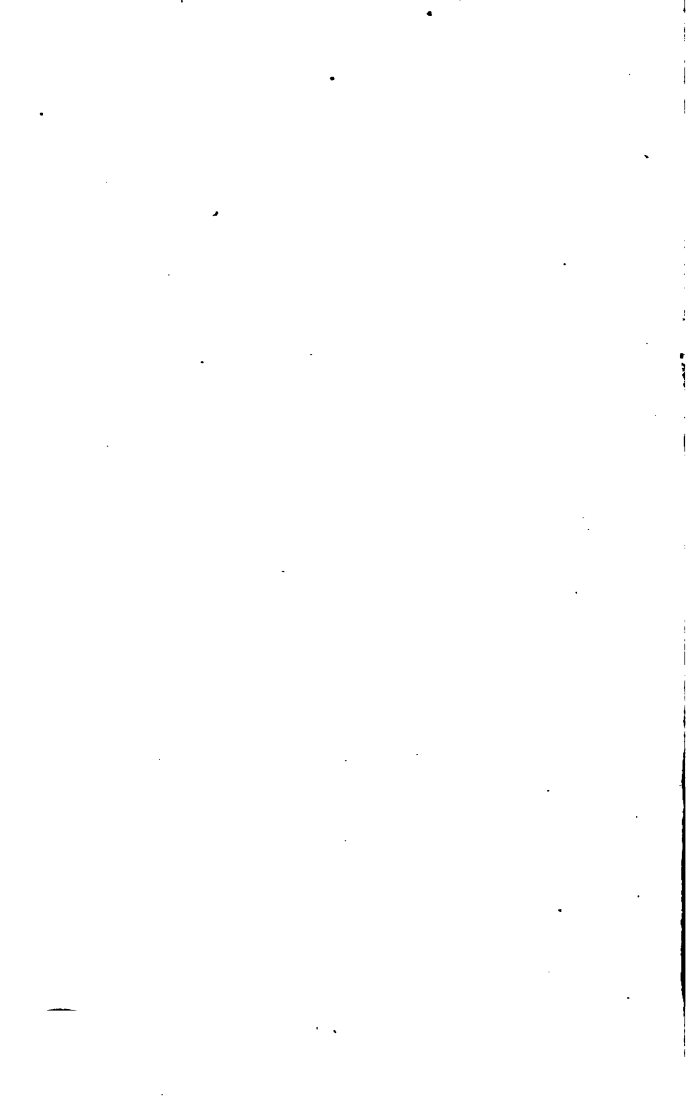


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A

BIOGRAPHICAL HISTORY

OF

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PHILOSOPHY.

BY

G. H. LEWES.

"Man is not born to solve the mystery of Existence; but he must, nevertheless, attempt it, in order that he may learn to know how to keep within the limits of the Knowable."—GÖTTE.

"For I doubt not through the ages one increasing purpose runs,
And the thoughts of men are widened by the process of the suns."
TENNYSON.

SERIES II.—FROM BACON TO THE PRESENT DAY.

VOLUME III.

LONDON:

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PREFACE

Revised. 1870-1871

THE present series exhibits so great a divergence from the ordinary route, that a word in explanation may not be superfluous. The omission of several familiar names, and the disproportionate length at which some articles are treated, might otherwise be regarded as negligence or caprice. If I have sinned in this respect, it has been upon system. Important as it was that the account of Modern Philosophy should not exceed two volumes (for if it had exceeded that quantity, it might as well have run to half-a-dozen), my first consideration was to unite fulness with brevity. An account of all the moderns would have occupied treble the space; unless I had contented myself with a skeleton of facts, repulsive in its rigidity. Driven to a selection, the nature of this work at once determined the principle of selection. As it is the History and not the Annals of Philosophy, only such names as represent the various schools have been chosen. Thus, I have given Descartes, but none of his school; Spinoza, but no Spinozist; Locke, but no Lockist; Kant, but no Kantist.

With regard to the length at which each subject has been treated, I was determined, first, by the importance of the ideas to be exposed (hence the great stress laid upon Methods, and all fundamental topics), and secondly, by the means of information accessible to the general reader: so that he might find in these volumes that which he could not find elsewhere

without difficulty—in some cases could not find at all. Dugald Stewart's 'Dissertation,' prefixed to the 'Encyclopædia Britannica,' is, I believe, the only account of Modern Philosophy in English. It is as entertaining as it is erudite; but it does not profess to be a History, and is rather a collection of *adversaria* than an exposition of opinions. To relish it, one must come prepared with a knowledge of the philosophical systems treated of; Stewart rarely helps the reader to that knowledge. Moreover, he knew nothing of German; very little of Spinoza; he has omitted Bacon; and gives no exposition of Berkeley's 'Idealism.' I have, consequently, treated Bacon and Spinoza at some length; have given Berkeley's theory in his own words; and have devoted considerable care to Kant, Fichte, Schelling, and Hegel. The chapters on these latter will, I trust, be found to render those speculations intelligible which have, hitherto, been given up in despair by most French and English students. I have not only presented the opinions of the Transcendentalists in a more intelligible form, but have endeavoured to show by what logical process these opinions were arrived at.

Some objection may, perhaps, be made to the amount of criticism mingled with the exposition. In this, though sinning against the office of Historian, I have been prompted by the one steady purpose which gives this work its unity, viz.: That of showing by Argument, what History shows by Facts,—that to attempt to construct a science of Metaphysics is to attempt an impossibility.

January, 1846.

INTRODUCTION.

PREPARATIONS FOR BACON AND DESCARTES:—

Scholasticism.

BACON and DESCARTES are the Fathers of Modern Philosophy. The title is not unfrequently given to Descartes alone; and with justice, if by Philosophy we understand Metaphysics; which is, indeed, what all historians of Philosophy understand by the word, and what has also been understood by it in the course of this work.*

It was at the period in which Bacon and Descartes flourished that the two antagonists, Metaphysics and Physics, first stood up openly, manfully against each other: consequently it is at this epoch of our history that the ambiguous nature of the term

* *Vide* Vol. I. p. 11. We have heard many objections to this restricted use of the word Philosophy, and have been blamed, as if it were a caprice of ours. We must therefore *again* express our disapproval of the restriction; and *again* declare that it is forced on us by the invariable practice of our predecessors. Let one example suffice; it shall be taken from a work only just published—"Philosophy may, in general, be reduced to five sciences, united by close bonds: Psychology, Logic, Metaphysics, Theodicy (Theology), and Ethics."—*Abelard*, par Ch. de Rémusat, Paris, 1845.

Philosophy becomes most apparent. When Physics were jumbled with Metaphysics, or received metaphysical explanations, there was no impropriety in designating all man's speculations by the name of Philosophy. When the separation took place, men were anxious to indicate that separation even in their language. Accordingly, it sounds somewhat harshly in most English ears to speak of the *science* of Metaphysics, or the *science* of Morals; in the same way as it sounds inaccurate to a German to speak of the Physical Sciences as Philosophy.* Even amongst ourselves the word is usually qualified: thus we speak of *chemical* philosophy, *natural* philosophy, &c.

The fact is, that a History of Philosophy is always understood to mean a History of Metaphysics. Now, properly speaking, in such a work Bacon has no place. Neither his speculations nor his method have anything in common with those of Philosophers. The great problems of Philosophy are by him left untouched. The influence he exercised over succeeding generations has been that of a steady opposition to all speculations not comprised within the sphere of physics. His title—his great and glorious title—is that of Father of Experimental Philosophy—Father of Positive Science.

There is no gainsaying this. And yet it would seem preposterous to leave out Bacon from our history, the more so as our predecessors have

* Hegel, with some scorn, notices the fact that in England Newton is ranked amongst the greatest *philosophers*; and he justly enough ridicules our applying the epithet "philosophical" to the instruments used in the laboratory and observatory.

always included him. Mr. Whewell, in his 'History of the Inductive Sciences,' has excluded him. Moreover, the peculiar object of our work being to trace the various Methods by which the human mind "was enabled to conquer for itself, in the long struggle of centuries, its present modicum of certain knowledge," we could not pass over the great attempt of Bacon to found that Method.

Bacon and Descartes must therefore be regarded as the initiators of modern Science and modern Metaphysics.* They both threw off the trammels of their age, and opened a new era in each department. Bacon stands at the head of the Inductive, *à posteriori*, movement, and is claimed by men of science as their leader. Descartes stands at the head of the pure Deductive, *à priori*, movement, and is claimed by all metaphysicians as their leader. To him, therefore, belongs the title of Father of Modern Philosophy, in that restricted sense of the word which we are forced to adopt. But although these two great men deserve the proud titles which posterity has bestowed upon them—although they really did separate themselves from the reigning dogmas of their day, and did open new paths of inquiry, on which they travelled far beyond their contemporaries, we must not suppose them indebted to their contemporaries. They were the creatures no less than the creators of their epoch. They founded new schools, but they founded them on the ruins and out of the materials around them. As the sophists of Greece were but the result of preceding thinkers, and paved the way for Socrates,

* Descartes, however, has claims also to the title of Father of Science; but his great province is metaphysics.

so did the Science and Scholasticism of the Middle Ages pave the way for Bacon and Descartes.

It would be frivolous to suppose that from Proclus to Descartes, from the fifth to the seventeenth centuries, there had been no philosophical activity. No one would imagine, that because Proclus was the last of ancient philosophers, and Descartes the first of modern, that therefore the whole intervening period was a blank. Thus it becomes a matter of interest to inquire into this intervening period, and to learn by what links the Ancient and the Modern are connected.

We have already (Vol. II. p. 224) stated reasons for not including any detailed account of Philosophy during the Middle Ages; we shall therefore content ourselves with very rapidly sketching the course which speculation took during the interval between Proclus and Descartes.

With the Alexandrians, Philosophy became absorbed in Religion. Those who succeeded them were the Fathers of the Christian Church, and with them also Philosophy was only the handmaid to Religion. The reader has heard of Scholasticism—of its subtlety, its wire-drawn distinctions, and its voluminous frivolity. He has, doubtless, also heard it spoken of in the high-flown language of paradoxical eulogy; and has been told that this much-decried Scholasticism is a mine of profound truths, and a splendid illustration of man's speculative ability. How far either the contempt or the admiration is deserved, we are not called upon to decide. Enough for our present purpose if we cite the opinion of one favourable to Scholasticism, who expressly declares that it "was nothing else than the employment of philosophy in the service

of faith, and under the surveillance of religious authority.”*

Scholasticism derives its name from the *Scholæ* (schools) which Charlemagne opened for the prosecution of philosophical studies. The clergy were almost the only persons who, in those days, had leisure or inclination for such studies. Thus, as M. Cousin remarks, the convents formed the cradle of modern philosophy, as the Mysteries formed that of Greek philosophy.

Scholasticism extended from the 8th to the 15th century, but its fortunes during that period were various. M. Cousin divides it into three epochs. The first was the absolute subordination of philosophy to theology. The second was the alliance of philosophy and theology. The third was the beginning of a separation, which, though feeble at first, gradually increased, until it ended in Modern Philosophy.

There are many illustrious names in each of these epochs. In the first we shall only mention Scotus Erigena, and we mention him only to quote his clear enunciation of the nature of scholasticism. “There are not two studies,” says he, “one of philosophy and the other of religion ; true philosophy is true religion, and true religion is true philosophy.” In this spirit they all wrote.

The second epoch was formed by the introduction, through the Arabians, of the works of Aristotle. “It has long been a commonplace,” says M. Cousin,

* Victor Cousin, *Hist. de la Philos.*, ii. 9ième leçon. Perhaps the most intelligible and satisfactory idea of Scholasticism, in its method, object, and results, is to be gained from the analysis of Abélard’s works, which fills a volume and a quarter of M. de Rémusat’s *Abélard*, Paris, 1845.

"to deplore that philosophy should have been under the yoke of Aristotle for so many years, and that commonplace is not yet extinct. This only proves how little we knew of the real science of history. In the first place, inasmuch as men were then only in possession of Aristotle, and Plato was to them almost unknown, no choice was left them between Aristotle and Plato. In the second place, if they had known Plato, they would inevitably have rejected him; for only imagine what would have become of the authority of the church, face to face with the dialectics and induction of Plato and Socrates! The Platonic induction would infallibly have decomposed the dogmas. The philosophy of Plato was doubtless more accordant; at bottom, with the doctrines of the church; but the form was so original, so independent, and so provocative of liberty of thought, that it would have then been inadmissible if it had been known. The philosophy of Aristotle had the immense advantage of being admissible. In a word, it perfected the only thing about which men dared then to occupy themselves—the only thing about which it was then necessary to occupy themselves, viz. the form. Strictly speaking, there was no philosophy in scholasticism; for it was condemned to be nothing more than a simple means—a form of theology. But in this state of things, *that which ameliorated the form ameliorated philosophy.*"

Aristotle, ill understood as he was, became the great authority in all matters of reasoning, as the Bible was the great authority in all matters of faith. Aristotle and the Bible may be said to have ruled the whole of this epoch with almost equal sway. The reverence felt for the Grecian sage was such, that in many universities the teachers were re-

quired to pledge an oath that they would follow no other guide. An attempt was made to canonize him as the Philosopher *par excellence*. And Melanethon bitterly complains of Aristotle's *Ethics* having been read aloud in the sacred assemblies.

The third epoch is opened by two extraordinary men, Raymond Lully and Roger Bacon. In the former we see the tendency to shake off the yoke of Aristotle by the substitution of a new method of Dialectics. Lully is the precursor of Ramus. In Roger Bacon's Exhortation to study Physics, and in his own attempts in that department, we see the growing tendency towards Positive Science. But it may be questioned whether either of these tendencies had so dissolving an effect as the mysticism of Tauler, Gerson, and the rest. In truth, this third epoch, on the whole, was characterized by its mysticism rather than by anything else.

Throughout these three epochs there was but one subject of philosophical dispute—the rest were wholly theological. This one was the old dispute of Nominalism and Realism, which we have already characterised.* The doctrine of Realism, as we saw, lies at the root of Plato's philosophy. In the scholastic dispute, although the subject was philosophical, yet it was made to have a theological bearing of a very important kind. No less a dogma than that of the Trinity was understood to be based upon it. If, as Roscelinus and the Nominists pretended, all general ideas are but the abstractions which the mind makes—if what are called abstract ideas are but the general names which we give to classes of individuals, then can generals, universals, abstract ideas (call them how

* See Vol. II. p. 61.

you will) have no external independent existence—they can be but words. If this be admitted, it follows that there is no reality except in individual things; and in that case many things we regard as unities can only be simply abstractions; amongst others the unity which is the basis of the Holy Trinity.

Roscelinus was ordered to appear before the Council of Soissons. There, in peril of his life, he retracted his opinion. William de Champeaux wrote a treatise against him, in which he maintained Realism in its extreme form, declaring that universals were the only real existences, and that individuals had only an existence in as far as they participated in universals; men were but fragments of humanity.

This dispute has been very fruitful of dissensions in later times, and is the sole dispute of the Middle Ages which has any philosophical value.

With the 15th century another epoch commences, which may be regarded as one of transition from Scholasticism to modern philosophy. The taking of Constantinople, and the revival of ancient letters, hastened materially the development of the human mind, by effectually enabling it to dethrone scholasticism. The works of Plato became known, and were enthusiastically studied. A school of Platonists, with Marsilio Ficino at their head, was quickly formed. A school of Aristotelians rose up against it: both counted remarkable men amongst their members; and the rest of the 15th century was occupied with their disputes.

The result of the introduction of ancient systems into Europe, was that of eager imitation of those systems. Some men became Platonists, others

Aristotelians, others Epicureans, others Sceptics, and others Mystics. However they might differ amongst themselves, they all united in their exaggerated admiration of antiquity; and whilst on the one hand the literary men were striving to catch the Ciceronian turn of phrase, or the Virgilian and Horatian *curiosa felicitas*, the speculative thinkers were as busily endeavouring to reproduce the errors of the ancient Greeks.

Philosophy had ceased allegiance to the Church, only to accept the authority of Antiquity!

But this was a highly important change. As M. Cousin remarks, it was impossible to pass at once from scholasticism to modern philosophy, and suddenly cast off all authority. It may therefore be regarded as fortunate that philosophy accepted a new species of authority; one altogether *human*, yet having no root in the thoughts and habits of the nation—having no external power, and divided in itself—consequently very flexible, and not at all durable; fortunate, because this was the very authority which served for the transition—which bridged over the chasm.

The 16th century brought Luther and the Reformation. The immediate result, as far as philosophy was concerned, may be at once divined: it placed the Bible in the hands of the people, as the revival of letters had placed Aristotle and Plato in the hands of students. Authority, already feeble, was quickly thrown to the ground.

While these various elements of discord were working the gradual dissolution of the old philosophy, Positive Science was also making considerable advances. Galileo had popularised Copernicus; and in 1609 had invented the telescope, which

enabled him to discover the satellites of Jupiter. Kepler was engaged in those discoveries which have immortalized him. The Algebra of the Greeks, introduced by the Arabs, was strikingly developed by Tartaglia, Cardan, and above all, by Vieta. Gilbert published his speculations on the magnet; mathematics were sedulously cultivated, and had already been applied to astronomy, mechanics, and physics; thus effectually ruining the authority of Aristotle and the Schoolmen. Those who have familiarized themselves with the luminous and profound classification of the sciences, operated by Auguste Comte in his great work,* will at once seize the historical importance of the epoch we are now speaking of; to those who are not in that condition, we can only say, that in this epoch there were the *preparations* for Bacon and Descartes. Elements were there at work which made the age ripe for the appearance of these two men, and rendered their speculations effective. Had either of these great men appeared earlier, his influence would have been comparatively trifling; but the age was ripe for them—the age wanted them—and the age adopted them.

And what was the special want of the age? A Method—and these men furnished it. Widely as the method of Bacon differs from the method of Descartes, the difference arises principally from one-sided views of the real nature of science; but *united*, they go very far towards a perfect method.

* See *Cours de Philosophie Positive*, i. pp. 86—97; also p. 112. In default thereof, see our analysis of it in the last chapter of this series.

FIRST EPOCH.

FOUNDATION OF THE INDUCTIVE METHOD.

CHAP. I. LIFE OF BACON.

CHAP. II. HIS HISTORICAL POSITION.

CHAP. III. HIS METHOD.

CHAP. IV. THE SPIRIT OF HIS WORKS.

CHAP. V. WAS THE METHOD NEW, USEFUL, AND
BACON'S OWN?

CHAPTER I.

THE LIFE OF BACON.

FRANCIS BACON was born on the 22nd January, 1561. Mr. Basil Montagu, the laborious and affectionate (we had almost said idolatrous) biographer of Bacon, wishes us to believe that the family was ancient and illustrious; and favours us with some flourishes about Bacon retiring to the "halls of his ancestors." This is somewhat different from the story of Bacon's grandfather having kept the sheep of the abbot of Bury.*

But although we can claim for Bacon no illustrious ancestry, we must not forget his excellent parentage. His father, Sir Nicholas, was generally considered as ranking next to the great Burleigh as a statesman. His mother, Anne, daughter of Sir Anthony Cooke, "was distinguished both as a linguist and as a theologian. She corresponded in Greek with Bishop Jewel, and translated his 'Apologia' from the Latin so correctly, that neither he nor Bishop Parker could suggest a single alteration."†

* See this question of lineage, and a great many other curious points, satisfactorily settled in an article on the Lives of Bacon, *London Review*, January, 1836.

† *Edin. Rev.* July, 1837, p. 9. This is the brilliant article on Bacon, by Mr. Macaulay, which has excited so much attention. It is reprinted in his 'Essays;' but not having these at hand, we shall always quote from the *Review*.

It is not often that such remarkable parents have such a son. His health, however, was very delicate, as is not unfrequent with men of intellectual eminence. This delicacy made him sedentary and reflective. Of his youth we know little, but that little displays the reflective tendency of his mind. At the age of twelve he discussed the point as to how a juggler could tell the card of which a man thought: he at first ascribed it to a confederacy between the juggler and the servants, till he at last discovered the law of the mind on which the trick depends. We hear also of his leaving his playfellows to examine the cause of an echo which he had observed in a vault.

At thirteen he was entered at Trinity College, Cambridge, where he imbibed a profound contempt for the course of study pursued there, and an inveterate scorn for Aristotle and his followers. It is said that he there planned his 'Novum Organum;' but this is highly improbable. What he did was doubtless to sketch some new scheme of philosophical study, because of his contempt for that in vogue. There must, however, be a wide difference between the sketch of a boy, prompted by contempt for reigning opinions, and the wise maturity of his greatest work, the fruit of a life's meditations.

On leaving Cambridge, he visited Paris, from whence he was recalled on the sudden death of his father. "Being returned from travail," says Dr. Rowley, "he applied himself to the study of the common law, which he took upon him to be his profession; in which he obtained to great excellency, though he made that (as himself said) but as an accessory, and not as his principall study."

But before betaking himself to this study he made an application to government for an office. His claims were great; but he had Burleigh for an opponent, and was defeated. He rose, however, rapidly into business, and had hopes of being called within the bar; but here also he was frustrated by Burleigh. The path of ambition was of no easy ascent; yet to such talents and such energy as his, few obstacles could be insuperable. He waited.

In 1598 he sat in parliament as member for Middlesex. He soon became distinguished as an orator and as a debater. We have the testimony of an admirable judge to assure us that Bacon's oratory was worthy of his other powers. Ben Jonson thus writes: "There happened, in my time, one noble speaker, who was full of gravity in his speaking. His language, where he could spare or pass by a jest, was nobly censorious. No man ever spoke more neatly, more pressly, more weightily, or suffered less emptiness, less idleness, in what he uttered. No member of his speech but consisted of his own graces. His hearers could not cough or look aside from him without loss. He commanded when he spoke, and had his judges angry or pleased at his devotion."*

Of his political bearing Mr. Macaulay thus speaks: "Bacon tried to play a very difficult game in politics. He wished to be at once a favourite at court and popular with the multitude. If any man could have succeeded in this attempt, a man of talents so rare, of judgments so prematurely ripe, of temper so calm, and of manners so plausible, might

* Ben Jonson: *Underwoods*. In the *Discoveries*, Ben also speaks admiringly and affectionately of him.

have been expected to succeed. Nor, indeed, did he wholly fail. Once, however, he indulged in a burst of patriotism, which cost him a long and bitter remorse, and which he never ventured to repeat. The court asked for large subsidies and for speedy payment. The remains of Bacon's speech breathe all the spirit of the Long Parliament.

"The Queen and her ministers resented this outbreak of public spirit in the highest manner. The young patriot condescended to make the most abject apologies. He abjured the Lord Treasurer to show some favour to his poor servant and ally. He bemoaned himself to the Lord Keeper, in a letter which may keep in countenance the most unmanly of the epistles which Cicero wrote during his banishment. The lesson was not thrown away. Bacon never offended in the same manner again."

It is here that we begin to see the justification of the last epithet in Pope's antithetical description of Bacon—

"The greatest, brightest, *meanest* of mankind."

In the want of manliness, which made him abjure his convictions when he found them creating displeasure at court, we see a baseness kindred to that immeasurable baseness which made him not simply abjure, but malignantly trample on a fallen friend; and that which in both instances gives this baseness so despicable a colour, is the paltriness of the motive—the greatest man of his age selling his soul for the smiles of a court!

It is sometimes said that we should not dwell upon the faults of great men. Certainly we should not dwell upon their faults to the exclusion of their great qualities. But if ever a striking lesson is to

be drawn from the examples of men, it is to be drawn from the examples of great men: perhaps the light of their glory may make the shadows deeper, but they thereby make them distincter. It is not pleasant to behold intellectual greatness allied to moral turpitude; and in the case of an author, who has, perhaps, greatly assisted our mental culture, and for whom we feel a sort of reverential gratitude, it is peculiarly distressing. But we must not juggle with ourselves; there is nothing but peril in shutting our eyes to the truth. Now what is the truth with respect to Bacon's conduct?

He had gained the affection of the daring, dashing, brilliant, high-spirited Earl of Essex. The ardent temperament of the young Earl showed itself in his uniform treatment of Bacon, no less clearly than in his reckless political career. It was no friendship contenting itself with words. When the office of Attorney-General became vacant, Essex strove to secure it for his friend, declaring to Sir Robert Cecil, who refused him, that he would "spend all his power, might, authority, and amity, and with tooth-and-nail procure the same against whomsoever." The office was, however, given to another. Essex then pressed the Queen to make Bacon Solicitor-General; but after a contest of a year and a half he was again defeated. The Earl consoled himself and Bacon by presenting him with an estate near Twickenham worth two thousand pounds; and presented it, as Bacon owned, "with so kind and noble circumstance as the manner was worth more than the matter."

"While in this year, 1598, the Earl of Essex was preparing for the voyage," says Mr. Montagu,

"Bacon communicated to him his intention of making a proposal of marriage to the Lady Hatton, the wealthy widow of Sir W. Hatton, and desired his lordship's interest in support of his pretensions." Essex pleaded his friend's cause with warmth. "If she were my sister or my daughter," said he, "I protest I would as confidently resolve to further it as I now persuade you."

"The suit," says Mr. Macaulay, "happily for Bacon, was unsuccessful. The lady, indeed, was kind to him in more ways than one. She rejected him, and she accepted his enemy. She married that narrow-minded, bad-hearted pedant, Sir Edward Coke, and did her best to make him as miserable as he deserved to be."

Such had been the friendship of Essex for Bacon—a friendship "destined to have a dark, a mournful, a shameful end. The lamentable truth must be told. This friend—so loved, so trusted—bore a principal part in ruining the Earl's fortunes, in shedding his blood, and in blackening his memory."*

Bacon's conduct is without excuse; but it is of a piece with what we noted before with respect to his repentant servility. Essex, from having been perhaps the foremost man in all England, was now on the eve of his disgrace, his rebellion, and his fearful end. For his conduct in Ireland he was about to answer. The Queen's favour had departed from him. And what did Bacon? This part of the story has been so admirably narrated by Mr. Macaulay, that our readers cannot but be grateful to us for presenting it in his words: "We believe

* Macaulay.

that Bacon sincerely exerted himself to serve Essex, as long as he thought he could serve Essex without injuring himself. . . . He attempted to mediate between his friend and the Queen; and, we believe, honestly employed all his address for that purpose. But the task which he had undertaken was too difficult, delicate, and perilous, even for so wary and dexterous an agent. He had to manage two spirits equally proud, resentful, and ungovernable. At Essex House he had to calm the rage of a young hero, incensed by multiplied wrongs and humiliations; and then to pass to Whitehall for the purpose of soothing the peevishness of a sovereign whose temper, never very gentle, had been rendered morbidly irritable by declining health, and by long habit of listening to flattery, and of exacting implicit obedience. It is hard to serve two masters. Situated as Bacon was, it was scarcely possible for him to shape his course so as not to give one or both of his employers reason to complain. For a time he acted as fairly as in circumstances so embarrassing could reasonably be expected. At length he found that while he was trying to prop the fortunes of another he was in danger of shaking his own. He had disobliged both parties whom he wished to reconcile. Essex thought him wanting in zeal as a friend.—Elizabeth thought him wanting in duty as a subject. The Earl looked on him as a spy of the Queen—the Queen, as a creature of the Earl. The reconciliation which he had laboured to effect appeared utterly hopeless. A thousand signs, legible to eyes far less keen than his, announced that the fall of his patron was at hand. He shaped his course accordingly. When Essex was brought before

the Council to answer for his conduct in Ireland. Bacon, after a faint attempt to excuse himself for taking part against his friend, submitted himself to the Queen's pleasure, and appeared at the bar in support of the charges. But a darker scene was behind. The unhappy young nobleman, made reckless by despair; ventured on a rash and criminal enterprise, which rendered him liable to the highest penalties of the law.

What course was Bacon to take? This was one of those conjunctures which show what men are. To a high-minded man, wealth, power, court-favour, even personal safety, would have appeared of no account, when opposed to friendship, gratitude, and honour. Such a man would have stood by the side of Essex at the trial—would have “spent all his power, might, authority, and amity” in soliciting a mitigation of the sentence—would have been a daily visitor at the cell—would have received the last injunctions, and the last embrace on the scaffold—would have employed all the powers of his intellect to guard from insult the fame of his generous though erring friend. An ordinary man would neither have incurred the danger of succouring Essex, nor the disgrace of assailing him. Bacon did not even preserve neutrality: he appeared as counsel for the prosecution. In that situation he did not confine himself to what would have been amply sufficient to procure a verdict. He employed all his wit, his rhetoric, his learning—not to ensure conviction, for the circumstances were such that conviction was inevitable—but to deprive the unhappy prisoner of all those excuses, which, though legally of no value, yet tended to diminish the moral guilt of the crime;

and which, therefore, though they could not justify the peers in pronouncing an acquittal, might incline the Queen to grant a pardon. The Earl urged as palliation of his frantic acts, that he was surrounded by powerful and inveterate enemies, that they had ruined his fortunes, that they sought his life, and that their persecutions had driven him to despair. This was true, and Bacon well knew it to be true. But he affected to treat it as an idle pretence. He compared Essex to Pisistratus, who by pretending to be in imminent danger of assassination, and by exhibiting self-inflicted wounds, had established tyranny at Athens. This was too much for the prisoner to bear. He interrupted his ungrateful friend to bid him quit the part of advocate—to come forward as a witness, and tell the lords whether in old times he, Francis Bacon, had not repeatedly asserted under his own hand the truth of what he now treated as idle pretexts. It is painful to go on with this lamentable story. Bacon returned a shuffling answer to the Earl's question; and as if the allusion to Pisistratus were not sufficiently offensive, made another allusion still more unjustifiable. He compared Essex to Henry Duke of Guise, and the rash attempt in the city to the day of Barricades in Paris. Why Bacon had recourse to such a topic it is difficult to say. It was quite unnecessary for the purpose of obtaining a verdict. It was certain to produce a strong impression on the mind of the haughty and jealous princess on whose pleasure the Earl's fate depended."

We venture to interrupt for a moment the narrative to attempt a solution of this problem of character, so strikingly presented to us. Why did Bacon *overdo* the part of an advocate? The known

principles of human nature suggest abundant causes. Firstly, it is the tendency of all persons consciously doing a wrong to exaggerate the misdemeanours of those they are wronging. Secondly, Bacon having, in the very act of accusing his friend, abjured all ties of friendship and of gratitude, would naturally endeavour to screen the turpitude of his conduct behind the higher duties of justice and patriotism; and thus, by making Essex worse, make the ingratitude of Essex's friend appear less. The greater the crime of Essex, the smaller the expectation that his friends would espouse his cause. It seems to us, therefore, that the fatal step taken by Bacon was the first: accepting the office of counsel for the prosecution. Having once done that—and done it from the paltriest motives of self-interest, not from a stern sense of justice, nor from a deep feeling of patriotism—all the rest of his conduct was natural enough. Thirdly, we must also take into account the exaggeration into which a mind so subtle, so quick in perceiving analogies, and so richly stored with examples, would inevitably be led during any display of rhetoric, the more especially when unrestrained by any moral delicacy or firmness. We all know how orators, warmed with their own efforts, are led away, and for a moment lose all command over themselves, being then in a state of real “enthusiasm,”—and how in such a state their imaginations are kindled by a word, so that a metaphor has to them the force of a fact, and analogies, however remote, are by the intensity of the momentary feeling seized upon as if they were demonstrative truths. This is a fact familiar to all. We have only to apply it to Bacon, who was a great orator, vain of his oratory; and who

in that particular instance had base, but strong, motives for exaggerating the crime of the accused ; and we shall then be at no loss to understand the criminating tendency of his speech, nor the allusions to Pisistratus and Henry of Guise.* With respect to these allusions also, any one familiar with his writings will be fully aware of the extreme fondness Bacon always exhibited for such analogies. Indeed one may say that the reliance on analogies was one of the most fruitful causes of his scientific and speculative errors.

Moral cowardice, then, was the primary cause of Bacon's conduct. It made him desert his fallen friend ; and having deserted him, the rest of his conduct was but a consequence of his position, and his peculiar intellect. We do not say his conduct was defensible : far from it ; but it was intelligible.

" Essex was convicted," continues Mr. Macaulay. " Bacon made no effort to save him, though the Queen's feelings were such that he might have pleaded his benefactor's cause, possibly with success, certainly without any serious danger to himself.† The unhappy nobleman was executed.

* It is a curious, and we believe unnoticed fact that Bacon in the heyday of their friendship once compared Essex to the Duke of Guise, though on a very different account. When the Earl presented him with the Twickenham estate, Bacon tells us that he likened him to the Duke of Guise, who was called the greatest usurer in France, because he had turned all his estates into obligations : meaning that he had left himself nothing, but had only bould numbers of persons to him.—*Sir Francis Bacon's Apology*.

† He must have been a bolder man than Bacon, who, after using all his eloquence to get the Earl convicted, and to show that he deserved no mercy, should have had the audacity to plead for him !

His fate excited strong, perhaps unreasonable feelings of compassion and indignation. The Queen was received by the citizens of London with gloomy looks and faint acclamations. She thought it expedient to publish a vindication of her late proceedings. The faithless friend who had assisted in taking the Earl's life was now employed to murder the Earl's fame. He was accordingly selected to write 'A Declaration of the Practices and Treasons attempted and committed by Robert Earl of Essex,' which was printed by authority. In the succeeding reign Bacon had not a word to say in defence of this performance—a performance abounding in expressions which no generous enemy would have employed respecting a man who had so dearly expiated his offences. His only excuse was that he wrote it by command—that he considered himself as a mere secretary—that he had particular instructions as to the way in which he was to treat every part of his subject—and that, in fact, he had furnished only the arrangement and the style."

Any one who has looked into this "Declaration," will pronounce the charge of having written it infamy enough to be borne by one man. But although this "Declaration" is as indefensible as the rest of his conduct—and his very feeble apology, printed in his works, in no way absolves him—yet we cannot but regard it as what he was in some degree bound to perform. He had taken up the Queen's cause, and assailed his friend. He could not now refuse to justify the Queen and himself.

Yet Bacon has found apologists and eulogists. If any doubt exists in the minds of our readers,

we refer them to the pages of Mr. Macanlay, where every excuse is examined and refuted with abundant wit and logic.

From this time Bacon's fortunes continued to improve. On the accession of James he was very favourably received at Court, and in 1607 he became Solicitor-General, and in 1612 Attorney-General. How much of this favour he owed to the eulogies of James in the "Advancement of Learning," which was published in 1605, it would be difficult to say; but we may be sure that a king of James's scholarly habits could not have remained insensible to the transcendent talents therein displayed.

But good fortune had not made him less of a sycophant. The trial of Oliver St. John, and above all, the disgraceful proceedings in the case of Peacham, ending with the still more disgraceful use of torture, would have blackened the fame of any one less infamous than Bacon. Mr. Basil Montagu, as usual, defends his hero on these points, and his critic in the Edinburgh Review triumphantly demolishes his arguments.

Bacon had early perceived that Villiers would eventually become the favourite; and while less discerning courtiers were still fawning upon Somerset, he fawned upon Villiers. His hopes were crowned with success. Buckingham became what Essex had been; and soon procured for his friend the favours of the Court. In 1616 Sir Francis Bacon was sworn of the Privy Council; and in March 1617, on the retirement of Lord Brackley, was appointed Keeper of the Great Seal. His administration was anything but pure. He was the tool of Buckingham, who was altogether unscrupulous.

pulous. On his own account, too, he accepted large presents from persons engaged in Chancery suits. His enemies reckoned his gains in this way at a hundred thousand pounds: an immense sum in those days, and probably exaggerated. Meanwhile he continued prosperous. His works had spread his fame throughout Europe. He had also been created Baron Verulam; and subsequently Viscount St. Alban's. We have every reason to believe that he valued this title higher than that of the author of the *Instauratio Magna*; but as Mr. Macaulay remarks, posterity, in defiance of Royal letters patent, has obstinately refused to degrade Francis Bacon into Viscount St. Alban's.

In the height of this prosperity a terrible reverse was at hand. He was accused of corruption and impeached. His remorse and dejection of mind were dreadful. "During several days he remained in his bed, refusing to see any human being. He passionately told his attendants to leave him—to forget him—never again to name his name—never to remember that there had been such a man in the world." The charges against him were such, that the king, impotent to save him, advised him to plead guilty. He did so. The sentence he received was severe: a fine of forty thousand pounds, and to be imprisoned in the Tower during the king's pleasure. He was declared incapable of holding any office in the State, or of sitting in Parliament, and was banished for life from the verge of the Court.

This sentence was not executed. He was sent, indeed, to the Tower; but at the end of the second day he was released. His fine was remitted by the Crown. He was soon allowed to present himself

at Court; and in 1624 the rest of his sentence was remitted. He was at liberty to sit in the House of Lords, and was summoned to the next Parliament. He did not, however, attend: age, infirmity, and let us hope, shame, prevented him.

In his retirement he devoted himself to literature; and amongst other works published his wonderful treatise *De Augmentis*, which, though only an expansion of his "Advancement of Learning," is nevertheless to be regarded as a new work.*

"The great apostle of experimental philosophy," says Mr. Macaulay, "was destined to be its martyr. It had occurred to him that snow might be used with advantage for the purpose of preventing animal substances from putrifying. On a very cold day, early in spring of the year 1626, he alighted from his coach near Highgate to try the experiment. He went into a cottage, bought a fowl, and with his own hands stuffed it with snow. While thus engaged, he felt a sudden chill, and was so much indisposed that it was impossible for him to return to Gray's Inn. After an illness of about a week, he expired on the morning of Easter-day, 1626. His mind appears to have retained its strength and liveliness to the end. He did not forget the fowl which had caused his death. In the last letter that he ever wrote, with fingers which, as he said, could not steadily hold a pen, he did not omit to mention that the experiment of the snow had succeeded excellently well."

* "I find upon comparison that more than two-thirds of this treatise are a version, with slight interpolation or omission, from the 'Advancement of Learning,' the remainder being new matter."—Hallam, *History of Literature of Europe*, iii. p. 169.

Such was Francis Bacon the man. The picture is a painful one: the union of great intellect with moral baseness is one of the least pleasing, but most instructive examples of human character. We have witnessed Bacon's infamy: we are now to turn to his glory. For as the writer we have so often quoted, admirably observes, "the difference between the soaring angel and the creeping snake was but a type of the difference between Bacon the Philosopher, and Bacon the Attorney-General—Bacon seeking for Truth and Bacon seeking for the Seals. Those who survey only one half of his character may speak of him with unmixed admiration or with unmixed contempt. But those only judge of him correctly who take in at one view Bacon in speculation and Bacon in action. They will have no difficulty in comprehending how one and the same man should have been far before his age and far behind it—in one line the boldest and most useful of innovators, in another line the most obstinate champion of the foulest abuses. In his library all his rare powers were under the guidance of an honest ambition—of an enlarged philanthropy—of a sincere love of truth. There, no temptation drew him away from the right course. Thomas Aquinas could pay no fees—Duns Scotus could confer no peerages. The 'Master of Sentences' had no rich reversions in his gift. Far different was the situation of the great philosopher when he came forth from his study and laboratory to mingle with the crowd which filled the galleries of Whitehall. In all that crowd there was no man equally qualified to render great and lasting services to mankind. But in all that crowd there was not a heart more set on

things which no man ought to suffer to be necessary to his happiness—on things which can often be obtained only by the sacrifice of honour and integrity. To be the leader of the human race in the career of improvement—to found on the ruins of ancient intellectual dynasties a more prosperous and a more enduring empire—to be revered to the latest generations as the most illustrious among the benefactors of mankind—all this was within his reach. But all this availed him nothing while some quibbling special pleader was promoted before him to the bench—while some heavy country gentleman took precedence of him by virtue of a purchased coronet—while some pander, happy in a fair wife, could obtain a more cordial salute from Buckingham—while some buffoon, versed in all the latest scandal of the court, could draw a louder laugh from James.”

Bacon, when dying, did not disguise from himself the mournful fact, that if he had thought profoundly he had acted unworthily. He knew his baseness. He also knew his greatness; and he said “for my name and memory I leave it to men’s charitable speeches, and to foreign nations and to the next age.” His confidence was well placed. Leniently as we cannot but think him to have been treated by his contemporaries, posterity has been still more gracious; and the reason is, as so felicitously expressed by Mr. Macaulay, that “turn where we will, the trophies of that mighty intellect are full in view. *We are judging Manlius in sight of the Capitol.*”

CHAPTER II.

BACON'S HISTORICAL POSITION.

BACON is the Father of Experimental Philosophy. And why? Was he the first great experimentalist? No. Was he the most successful experimentalist? No. Was he the discoverer of some of those great laws, the application of which is the occupation of succeeding generations—was he a Copernicus, a Galileo, a Kepler, a Torricelli, a Harvey, or a Newton? No.

He owes his title to his Method. What that Method was, it is our purpose to examine; but before doing so it may be necessary to consider an opinion recently put forth in a work of high authority, which, if correct, would reduce Bacon's merit to that of a mere *littérateur*. We are speaking of an opinion entertained by Dr. Whewell, and which may be said to form the critical basis of his "History of the Inductive Sciences." It is this:—

After a rapid review of Greek Physics, he comes to the question of the cause of failure. It is indeed an interesting problem: Why did the Greeks fail in constructing science upon a solid basis? Dr. Whewell first shows that the cause of failure was not *neglect of facts*; next, that it was not *deficiency of ideas*: and these two requisites of science, facts and ideas, being fulfilled, it becomes a question why science was not solidly established.

"We come back again, therefore, to the question, What was the radical and fatal defect in the physical speculations of the Greek philosophical schools?

"To this I answer: The defect was, that though they had in their possession facts and ideas, *the ideas were not appropriate to the facts.*

"The peculiar characters of scientific ideas, which I have endeavoured to express by speaking of them as distinct and appropriate to the facts, must be more fully and formally set forth when we come to the philosophy of the subject. In the mean time the reader will probably have no difficulty in conceiving that for each class of facts there is some special set of ideas, by means of which the facts can be included in general scientific truths: and that these ideas, which may be thus termed *appropriate*, must be possessed with entire distinctness and clearness, in order that they may be successfully applied. It was the want of such ideas having reference to material phenomena, which rendered ancient philosophers with very few exceptions helpless and unsuccessful speculators on physical subjects.

"This must be illustrated by one or two examples. One of the facts which Aristotle endeavours to explain is this: that when the sun's light passes through a hole, whatever be the form of the hole, the bright image, if formed at any considerable distance from the hole, is round, instead of imitating the figure of the hole, as shadows resemble their objects. We shall easily perceive this appearance to be a necessary consequence of the circular figure of the sun, if we conceive light to be diffused from the luminary by means of straight *rays* proceeding,

from every point. But instead of this appropriate idea of *rays*, Aristotle attempts to explain the fact by saying that the sun's light has a circular nature, which it always tends to manifest. And this vague and loose conception of a circular *quality*, employed instead of the distinct conception of rays, which is really applicable, prevented Aristotle from giving a true account even of this very simple optical phenomenon." *

With all due submission to Dr. Whewell we must say that this explanation seems to us nothing more than answering the question by the question itself, put in another form. It is simply saying that the Greeks failed in their attempts to construct science *because* they had not fit scientific ideas; that they could not correctly explain phenomena, *because* they were not in possession of the correct explanations. This looks very like a truism.

The question was not, Had the Greeks appropriate (true) ideas? The fact that they had not such ideas was apparent in their failure. The question asked by Dr. Whewell himself was, What was the cause of their failure? And it will be readily admitted that no explanation of a cause can be given by simply stating, in a circumlocutory manner, the very fact to be explained.

Can we have misunderstood Dr. Whewell? Scarcely; his language is plain and decisive; the only possible ambiguity must be in the phrase "appropriate ideas." In his subsequent work 'The Philosophy of the Inductive Sciences,' he is at some pains to explain what he understands by the phrase. He says very justly that "no genuine

'Hist. of Ind. Sciences,' i. p. 79.

advance could ever be obtained in mechanics by applying to the subjects the ideas of space and time merely: no advance in chemistry by the use of mere mechanical conceptions: no discovery in physiology by referring facts to mere chemical and mechanical principles." This is very true, and adapted to his purpose; but does not, we imagine, in any way bear out his previous remarks on Greek philosophy.

In the first place, it is by no means true that the Greeks *always* applied "inappropriate ideas," even when in error. Their generalizations were too hasty, and here mainly was the cause of their errors.* In the second place, we have still to learn the reasons which caused them to apply inappropriate ideas, if we would learn the cause of their failure. Men of vast intellectual powers fail in discerning the real connections of phenomena. The question is, why did they fail?

The Greeks failed, we believe, because they sought *false objects*, and employed a *false method*; because they made science a part of metaphysics; and when pursuing science for science's sake, they employed a wrong method. They *did not* acquire "appropriate ideas," because *with such objects*, and *with such a method*, they *could not* acquire

* Since writing this we have read the following confirmation by Dr. Whewell's reviewer:—"Aristotle gives *no such explanation* as that which is ascribed to him. He never mentions the circular nature of the sun's light; and he gives an explanation of the phenomenon which it is manifest Mr. W. could not have given, and which would not have done discredit to Newton himself. Aristotle *not only applies the appropriate idea of rectilinear rays*, but he does much more, he proves that the phenomenon is not deducible from this idea."—*Edin. Rev.*, Jan. 1842.

them. And the few scientific ideas they did acquire were due either to mathematics or to an empirical, consequently an *unscientific*, method.

This answer is no novelty of ours; it is that which the best thinkers have given; it is that which a careful inspection of ancient theories must at once suggest. If it be correct, we shall easily assign to Bacon his historical position; if it be incorrect, and if Dr. Whewell's opinion be accepted, it will be difficult to say what place Bacon fills in the history of science: he certainly did not leave mankind a rich inheritance of "appropriate ideas;" but he left mankind the rich inheritance of a method "that being by these our aids and appliances freed and defended from wanderings and impediments, men may lend their hands also to the labours which remain to be performed." He did not teach men appropriate ideas, but he taught them *how* they might acquire them.

CHAPTER III.

BACON'S METHOD.

THIS chapter will be purely expository; and as the exposition of Bacon's method has been given by Professor Playfair, in his "Dissertation on the Progress of Physical Science," so clearly and so fully as to leave nothing to desire, we shall simply abridge it.

Before laying down the rules of his method Bacon proceeds to enumerate the causes of error—the *Idols*, as he terms them, in his figurative language, or false divinities to which the mind had so long been accustomed to bow.* He considered this enumeration as the more necessary, that the same idols were likely to return, even after the reformation of science.

These idols he divides into four classes, viz.:—

- Idola Tribus . . . Idols of the Tribe.
- Specus . . . —— of the Den.
- Fori . . . —— of the Forum.
- Theatri . . . —— of the Theatre.

1. The *Idols of the Tribe* are the causes of error founded on human nature in general. "The mind," he observes, "is not like a plane mirror,

* Mr. Hallam was the first to point out the mistake which all modern writers have made respecting the meaning of the word *Idol*, as used by Bacon; which does not mean *idol*, but *false appearance* (εἰδωλον). See the passage in Hallam's *Lit. of Europe*, vol. iii. pp. 194-6.

which reflects the images of things exactly as they are ; it is like a mirror of an uneven surface, which combines its own figure with the figures of the objects it represents."

Among the idols of this class we may reckon the propensity which there is in all men to find a greater degree of order, simplicity, and regularity, than is actually indicated by observation. Thus as soon as men perceived the orbits of the planets to return into themselves, they immediately supposed them to be perfect circles, and the motion in those circles to be uniform ; and to these hypotheses the astronomers and mathematicians of all antiquity laboured incessantly to reconcile their observations.

The propensity which Bacon has here characterized may be called the *spirit of system*.

2. The *Idols of the Den* are those which spring from the peculiar character of the individual. Besides the causes of error common to all mankind, each individual has his own dark cavern, or den, into which the light is imperfectly admitted, and in the obscurity of which a tutelary idol lurks, at whose shrine the truth is often sacrificed.

Some minds are best adapted to mark the differences of things, others to catch at the resemblances of things. Steady and profound understandings are disposed to attend carefully, to proceed slowly, and to examine the most minute differences ; while those that are sublime and active are ready to lay hold of the slightest resemblances. Each of these easily runs into excess ; the one by catching continually at distinctions, the other at affinities.

3. The *Idols of the Forum* are those which arise

out of the intercourse of society, and those also which arise from language.

Men believe that their thoughts govern their words; but it also happens by a certain kind of reaction that their words frequently govern their thoughts. This is the more pernicious that words being generally the work of the multitude divide things according to the lines most conspicuous to vulgar apprehensions. Hence when words are examined, few instances are found in which, if at all abstract, they convey ideas tolerably precise and defined.

4. The *Idols of the Theatre* are the deceptions which have arisen from the dogmas of different schools.

As many systems as existed, so many representations of imaginary worlds had been brought upon the stage. Hence the name of *Idola Theatri*. They do not enter the mind imperceptibly like the other three; a man must labour to acquire them, and they are often the result of great learning and study.

After these preliminary discussions Bacon proceeds in the Second Book of his *Organum* to describe and exemplify the nature of induction.

The first object must be to prepare a history of the phenomena to be explained, *in all their modifications and varieties*. This history is to comprehend not only all such facts as spontaneously offer themselves, but all *the experiments instituted for the sake of discovery* or for any of the purposes of the useful arts. It ought to be composed with great care; the facts accurately related and distinctly arranged; their authenticity diligently examined; those that rest on doubtful evidence though not

rejected, yet noted as uncertain, with the grounds of the judgment so formed. This last is very necessary, for facts often appear incredible only because we are ill-informed, and cease to appear marvellous when our knowledge is further extended. This record of facts is *Natural History*.

The *Natural History* being prepared of any class of phenomena, the next object is to discover, by a comparison of the different facts, the *cause* of these phenomena, or, as Bacon calls it, the *form*. The form of any quality in a body is something convertible with that quality; that is, where it exists the quality exists: thus if transparency in bodies be the thing inquired after, the *form* of it is something found wherever there is transparency. Thus *form* differs from *cause* in this only: we call it form or essence when the effect is a permanent quality; we call it *cause* when the effect is a change or an event.

Two other objects, subordinate to *forms*, but often essential to the knowledge of them, are also occasionally subjects of investigation. These are the latent process, *latens processus*; and the latent schematism, *latens schematismus*. The former is the secret and invisible progress by which sensible changes are brought about, and seems in Bacon's acceptation to involve the principle since called the *law of continuity*, according to which no change however small can be effected but in *time*. To know the relation between the time and the change effected in it would be to have a perfect knowledge of the latent process. In the firing of a cannon, for example, the succession of events during the short interval between the application of the match and the expulsion of the ball, consti-

tutes a latent process of a very remarkable and complicated nature, which, however, we can now trace with some degree of accuracy.

The latent schematism is that invisible structure of bodies on which so many of their properties depend. When we inquire into the constitution of crystals, or into the internal structure of plants, &c., we are examining into the latent schematism.

In order to inquire into the form of anything by induction, having brought together all the facts, we are to begin with considering what things are thereby *excluded* from the number of possible forms. This conclusion is the first part of the process of induction. Thus if we are inquiring into the quality which is the cause of transparency in bodies; from the fact that the diamond is transparent, we immediately exclude rarity or porosity as well as fluidity from these causes, the diamond being a very solid and dense body.

Negative instances, or those where the *form* is wanting to be also collected.

That glass when pounded is not transparent is a negative fact when the form of transparency is inquired into; also that collections of vapours have not transparency. The facts thus collected, both negative and affirmative, should, for the sake of reference, be reduced to tables.

Bacon exemplifies his method on the subject of Heat; and though his collection of facts be imperfect, his method of treating them is extremely judicious,* and the whole disquisition highly interesting.

* A different opinion from that of Prof. Playfair respecting this investigation will be hereafter quoted from John Mill.

After a great many exclusions have been made, and left but few principles common to every case, one of these is to be assumed as the cause ; and by reasoning from it synthetically we are to try if it will account for the phenomena. So necessary did this exclusive process appear to Bacon that he says, " It may perhaps be competent to angels or superior intelligences to determine the form or essence directly, by affirmations from the first consideration of the subject ; but it is certainly beyond the power of man, to whom it is only given to proceed at first by negatives, and in the last place to end in *affirmatives*, after the exclusion of everything else."

There is, however, great difference in the value of facts. Some of them show the thing sought for in the highest degree, some in the lowest ; some exhibit it simple and uncombined, in others it appears confused with a variety of circumstances. Some facts are easily interpreted, others are very obscure, and are understood only in consequence of the light thrown on them by the former. This led Bacon to his consideration of *Prerogative Instances*, or the comparative value of facts as means of discovery. He enumerates twenty-seven different species ; but we must content ourselves with giving only the most important.

I. *Instantiæ solitariae* : which are either examples of the same quality existing in two bodies otherwise different, or of a quality differing in two bodies otherwise the same. In the first instance the bodies differ in all things but one ; in the second they agree in all but one. Thus if the cause or form of colour be inquired into, *instantiæ solitariae* are found in crystals, prisms, drops of

dew, which occasionally exhibit colour, and yet have nothing in common with the stones, flowers, and metals which possess colour permanently, except the colour itself. Hence Bacon concludes that colour is nothing else than a modification of the rays of light produced in the first case by the different degrees of incidence; and second by the texture or constitution of the surface of bodies. He may be considered as very fortunate in fixing on these examples, for it was by means of them that Newton afterwards found out the composition of light.

II. The *instantiæ migrantes* exhibit some property of the body passing from one condition to another, either from less to greater or from greater to less; arriving nearer perfection in the first case, or verging towards extinction in the second.

Suppose the thing inquired into were the cause of whiteness in bodies; an *instantia migrans* is found in glass, which entire is colourless, but pulverized becomes white. The same is the case with water unbroken or dashed into foam.

III. The *instantiæ ostensivæ* are the facts which show some particular property in its highest state of power and energy, when it is either freed from impediments which usually counteract it, or is itself of such force as entirely to repress those impediments.

If the weight of air were inquired into, the Torricellian experiment, or the barometer, affords an *ostensive instance*, where the circumstance which conceals the weight of the atmosphere in common cases, namely, the pressure of it in all directions, being entirely removed, that weight produces its

full effect, and sustains the whole column of mercury in the tube.

IV. The *instances* called *analogous* or *parallel* consist of facts between which a resemblance or analogy is visible in some particulars, notwithstanding great diversity in all the rest. Such are the telescope and microscope compared to the eye. It was the experiment of the camera obscura which led to the discovery of the formation of images of external objects in the bottom of the eye by the action of the crystalline lens, and other humours of which the eye is formed.

V. *Instantiæ comitatus*: examples of certain qualities which always accompany one another. Such are flame and heat—flame being always accompanied by heat, and the same degree of heat in a given substance being always accompanied with flame.

Hostile instances, or those of perpetual separation, are the reverse of the former. Thus transparency and malleability in solids are never combined.

VI. The *instantia crucis*. When in any investigation the understanding is placed in *equilibrium*, as it were, between two or more causes, each of which accounts equally well for the appearances, as far as they are known, nothing remains to be done, but to look out for a fact which can be explained by one of these causes and not by the other. Such facts perform the office of a cross, erected at the separation of two roads, to direct the traveller which to take: hence called *crucial instances*.

The *experimentum crucis* is of such weight in

matters of induction, that in all those branches of science where it cannot be resorted to (the circumstance of an experiment being out of our power and incapable of being varied at pleasure) there is often a great want of conclusive evidence.

Such are the leading points of Bacon's analysis of the Inductive Method.

CHAPTER IV.

THE SPIRIT OF BACON'S WORKS.

FROM the foregoing exposition it will be seen that Bacon's method was not a vague formula, but a system of specific rules. He did not content himself with telling men to make observations and experiments: he told them *how* observations and experiments ought to be made. He did not content himself with stating the proper method of investigation to be that of induction founded upon facts: he distinguished proper from improper inductions—the "interrogation" from the "anticipation" of Nature.

He did this, and he did more. His method may be said to have two parts: the one, that precise system of rules just spoken of; the other, that wise and pre-eminently scientific spirit which breathes through his works. This latter has given us those wise and weighty aphorisms which form perpetual *texts* for philosophical writers. It is this, more than his rules, which reveals to us the magnificence and profundity of his views. It is this which shows us how completely he saw through the false methods of his day, and how justly he is entitled the father of positive science.

These aphorisms form, as we have said, perpetual texts. They are quoted on all occasions in which method is treated of by scientific men. We

cannot, however, resist quoting a half-dozen of them here, because of their exceeding value, and of their fitness as illustrations of his greatness:—

I. Man, the minister and interpreter of Nature, can act and understand in as far as he has, either in fact or in thought, observed the order of Nature; more he can neither know nor do.

II. The real cause and root of almost all the evils in science is this: *that, falsely magnifying and extolling the powers of the mind, we seek not its real helps.*

III. There are two ways of searching after and discovering truth: the one, from sense and particulars, rises directly to the most general axioms, and resting upon these principles, and their unshaken truth, finds out intermediate axioms, and this is the method in use; but the other raises axioms from sense and particulars *by a continued and gradual ascent*, till at last it arrives at the most general axioms, which is the true way, but hitherto untried.

IV. The understanding, when left to itself, takes the first of these ways, for the mind *delights in springing up to the most general axioms, that it may find rest*; but after a short stay there, *it disdains experience*, and these mischiefs are at length increased by logic for the ostentation of disputes.

V. The natural human reasoning we, for the sake of clearness, call the anticipation of nature, as being a rash and hasty thing; and the reason duly exercised upon objects, we call the interpretation of nature.

VI. It is false to assert that human sense is the measure of things, since all perceptions, both of sense and mind, are *with relation to man, and not*

*with relation to the universe;** but the human understanding is like an unequal mirror to the rays of things, which, *mixing its own nature with the nature of things, distorts and perverts them.*

We need only consider these half-dozen aphorisms to see the *positive* tendency of his speculations; but the greater the attention we bestow on his writings, the more is this fact pressed on our notice. This indeed is the scope of his writings. His mind was averse to all metaphysics. Neither the ingenuities of logicians, nor the passionate earnestness of theologians, in that age of logicians and theologians, could lure him from his path. "He lived in an age," says Mr. Macaulay, "in which disputes on the most subtle points of divinity excited an intense interest throughout Europe, and nowhere more than in England. He was placed in the very thick of the conflict. He was in power at the time of the Synod of Dort; and must for months have been daily deafened with talk about election, reprobation, and final perseverance; yet we do not remember a line in his works from which it can be inferred that he was either a Calvinist or an Arminian. While the world was resounding with the noise of a disputatious theology and a disputatious philosophy, the Baconian school, like Allworthy seated between Thwackum and Square, preserved a calm neutrality, half scornful, half benevolent, and content with adding to the sum of practical good, left the war of words to those who liked it."

It may not at once be apparent how eminently scientific a spirit is shown in Bacon's separation of

* This is Dr. Shaw's translation. The original is "*sunt ex analogia hominis, non ex analogia universi,*" which is intelligible and expressive enough, but difficult to render.

science from theology ; but a slight reflection will convince us that at such an epoch such a conception was wonderful. The persecution of Galileo by the Church, and his recantation, were fresh in every one's memory, and are sufficient to show that religion was still considered the arbiter of philosophy and science ; nor is this notion yet extinct. The objections raised against the geologists still operate as a powerful obstacle to the universal acceptance of the science ; and only a few years ago Mr. Crosse's celebrated experiments on the production of insects by means of electricity were endeavoured to be put down by the assertion that they "led to Atheism." As long as men will not understand the distinction between faith and reason—between religion and science—such objections will always be made ; but Bacon clearly saw this distinction, and one great aim of his method was to enforce it.

But he did not merely separate himself from the metaphysicians : this was but one step towards *positivism*. He took the other and far greater step when he so emphatically proclaimed that physics was "the mother of all the sciences." That this was greatly in advance of his age may be gathered from the fact of its to this day remaining a heresy ; and that in spite of Dr. Arnott, Auguste Comte, and John Mill, the notion of morals and politics having the same methods, and being susceptible of the same treatment as physics, is looked upon as fanciful, if not absurd.

Now let us listen to Bacon. Speaking of the causes of errors in preceding philosophers, he says, "A second cause of very great moment is that through all those ages wherein men of genius and

learning principally or even moderately flourished, the smallest part of human industry has been spent upon natural philosophy, though this ought to be esteemed as the great mother of the sciences; for all the rest, if torn from this root, may perhaps be polished and formed for use, but can receive little increase.

“ But let none expect any great promotion of the sciences, especially in their effective part, *unless natural philosophy be drawn out to particular sciences; and again, unless these particular sciences be brought back again to natural philosophy.* From this defect it is that astronomy, optics, music, many mechanic arts, and, what seems stranger, *even moral and civil philosophy, and logic,* rise but little above their foundations, and only skim over the varieties and surfaces of things, viz., because, after these particular sciences are formed and divided off, they are no longer nourished by natural philosophy, which might give them strength and increase; and therefore no wonder if the sciences thrive not, when separated from their roots.”*

It was in consequence of his having so profoundly penetrated the very nature of science that Bacon was able “ to lay down the rules for the conduct of experimental inquiries, before any such inquiries had yet been instituted. The power and compass of a mind which could form such a plan beforehand, and trace not merely the outline but many of the most minute ramifications of sciences which did not yet exist, must be an object of admiration to all succeeding ages.”†

* ‘ Nov. Org.,’ I. Aph. 79, 80.

† Playfair.
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In his separation of science from metaphysics and theology, and in his conception of physics as the mother of all the sciences, we see the eminently *positive* spirit of his works; and this makes him so entirely a modern. He was indeed thoroughly opposed to antiquity, and was the first to expose the fallacy of a supposed debt of reverence. "The opinion which men entertain of antiquity is a very idle thing," said he, "and almost incongruous to the word; for the old age and length of days of the world should in reality be accounted antiquity; and ought to be attributed to our own times, not to the youth of the world which it enjoyed among the ancients, for that age, though with respect to us it be ancient and greater, yet with regard to the world it was new and less."

The reader can now scarcely entertain a doubt of Bacon's claim to the title of Father of Experimental Philosophy; but while endeavouring to indicate the spirit of his works we must endeavour also to show that this spirit was *new* at that time—that it was radically opposed to the spirit which animated earlier speculators.

What was the error of the ancients? We before declared that error to be the pursuit of an object impossible to attain: a knowledge of *things in themselves*, and of course beyond the sphere of human apprehension. And when they made scientific investigations, they were guided by a false method.

Bacon understood this well. He bore testimony to the genius of several of the ancients, while he declared that their genius availed them nothing, because wrongly employed; adding, in his usual manner, "a cripple in the right way may beat a racer in the wrong one. Nay, the fleetest the

racer is, who has once missed his way, the farther he leaves it behind." "We have an example," he says, "in Aristotle, who corrupted natural philosophy with Logic, . . . being all along more solicitous how men might defend themselves by answers, and advance something that should be *positive in words*, than to *come at the inward truth of nature*. . . . It is true his books of animals, problems, and other pieces, make frequent use of experiments; but then he first pronounced without their assistance, and did not duly consult experience in forming his degrees and axioms; but after he had passed judgment according to his own humour, he winds experience round, and leads her captive to his own opinions. . . . Another great reason of the slow progress of the sciences is this: that it is impossible to proceed well in a course where the end is not rightly fixed and defined. Now the true and genuine end of the sciences is no other than to enrich human life with new inventions and new powers. . . . Fruits and discoveries of works are as the vouchers and securities for the truth of philosophies. But from the philosophies of the Greeks, and their descents through particular sciences, now for the space of so many years scarce a single experiment can be produced tending to accommodate or improve the state of man, that may be justly attributed to the speculations and doctrines of their philosophy. . . . Therefore, since the end of the sciences has not hitherto been well defined by any one, we need not wonder if men have erred and wandered in the things subservient to the proper end. Again, if this end had been rightly proposed, yet men *have chosen a very wrong and impassable way to pro-*

ceed in. And it may strike any one with astonishment who duly considers it, that no mortal should hitherto have taken care to open and prepare *a way for the human understanding*, from sense and a well-conducted experience; but that all things should be left either to the darkness of tradition, the giddy agitation and whirlwind of argument, or else to the uncertain waves of accident, or a vague and uninformed experience. Let any one soberly consider what the way is which men have accustomed themselves to, in the inquiry and discovery of anything, and he will doubtless find that the manner of invention most commonly used is simple and unartful: or on no other than this, viz.: when a person goes upon an inquiry, in the first place he searches out and peruses what has been said upon it by others; in the next place, adds his own thoughts thereto; and lastly, with great struggle of the mind, solicits and invokes, as it were, his own spirit to deliver him oracles: which is a method entirely destitute of foundation, and rolls wholly upon opinions. Others may call in the assistance of logic; but this is only a nominal assistance, for logic does not discover the principles and capital axioms upon which arts are built, but only such as seem agreeable thereto; and when men are curious and earnest with it, to procure proofs, and discover principles or first axioms, it refers them to faith, or puts them off with this trite and common answer—that every artist must be believed in his own art.”

Dugald Stewart* well says, “that the idea of the *object* of physical science (which may be justly

* In the excellent chapter on Induction, ‘Philos. of Mind,’ vol. ii. chap. iv. sect. 1.

regarded as the groundwork of Bacon's *Novum Organum*) differs essentially from what was entertained by the ancients, according to whom 'Philosophy is the science of *causes*.' If indeed by *causes* they had meant merely the constant forerunners or antecedents of events, the definition would have coincided nearly with the statement which I have given. But it is evident that by *causes* they meant such antecedents as were *necessarily* connected with the effects, and from the knowledge of which the effects might be foreseen and demonstrated. And it was owing to this confusion of the proper objects of physics and metaphysics that, neglecting the observation of facts exposed to the examination of their senses, they vainly attempted, by synthetical reasoning, to deduce as necessary consequences from their supposed causes the phenomena and laws of nature."

Dugald Stewart also quotes Aristotle's express declaration that to know the *physical cause* is also to know the *efficient cause*; and observes, that from this disposition to confound *efficient* with *physical* causes may be traced the greater part of the theories recorded in the history of philosophy. It is this which has given rise to the attempts, both in ancient and modern times, to account for all the phenomena of moving bodies by *impulse*; and it is this also which has suggested the simpler expedient of explaining them by the agency of *minds* united with the particles of matter. To this last class of theories may also be referred the explanations of physical phenomena by such causes as sympathies, antipathies, nature's horror of a vacuum, &c., and other phrases borrowed by analogy from the attributes of animated beings.

It was Bacon's constant endeavour, as it has been his enduring fame, to teach men the real object of science and the scope of their faculties; and to furnish them with a proper method whereon these faculties might be successfully employed.

He thus not only stands clearly out in history as the exponent of the long-agitated antagonism to all the ancient and scholastic thinkers, but also as the exponent of the rapidly increasing tendency towards positive science.

He is essentially modern. All his predecessors, even in their boldest attacks upon ancient philosophy, were themselves closely allied to the spirit of that which they opposed. Ramus is the child of Aristotle, though he raised his hand against his father. But Bacon was modern in culture, in object, and in method. He attacked the ancient philosophy without having thoroughly understood it: he attacked it because he saw that a method which conducted great intelligences to such absurd conclusions as those then in vogue must necessarily be false.

"Whence can arise," he asks, "such vagueness and sterility in all the physical systems which have hitherto existed in the world? It is not certainly from any thing in nature itself; for the *steadiness and regularity of the laws by which it is governed clearly mark them out as objects of precise and certain knowledge.*

"Neither can it arise from any want of ability in those who have pursued such inquiries, many of whom have been men of the highest talent and genius of the ages in which they lived; and it can therefore arise from nothing else but the perverseness and *insufficiency of the methods which have*

been pursued. Men have sought to make a world from their own conceptions, and to draw from their own minds all the materials which they employed; but if, instead of doing so, they had consulted experience and observation, they would have had facts and not opinions to reason about, and might have ultimately arrived at the knowledge of the laws which govern the material world.

"As things are at present conducted a sudden transition is made from sensible objects and particular facts to *general propositions, which are accounted principles*, and round which, as round so many fixed poles, disputation and argument continually revolve. From the propositions thus hastily assumed all things are derived by a *process compendious and precipitate*, ill suited to discovery, but wonderfully accommodated to debate.

"The way that promises success is the reverse of this. It requires that we should *generalize slowly*, going *from particular things* to those that are *but one step more general*; from those to others of still *greater extent*, and so on to such as are *universal*. By such means we may hope to arrive at principles not vague and obscure, but luminous and well defined, such as Nature herself will not refuse to acknowledge."

In this pregnant passage he has clearly enough pointed out the position which his philosophy was to occupy. Many other philosophers, as Professor Macvey Napier remarks, "both ancient and modern, had referred to observation and experiment in a cursory way, as furnishing the materials of physical knowledge; but no one before him had attempted to *systematize the true method of discovery*; or to prove that the inductive is the *only* method by

which the genuine office of philosophy can be exercised, and its genuine ends accomplished. It has sometimes been stated that Galileo was, at least, in an equal degree with Bacon, the father of the Inductive Logic; but it would be more correct to say that his discoveries furnished some fortunate illustrations of its principles. To explain these principles was no object of his; nor does he manifest any great anxiety to recommend their adoption with a view to the general improvement of science. The Aristotelian disputant, in his celebrated *Dialogues*, is made frequently to appeal to observation and experiment; but the interlocutor through whom Galileo himself speaks, nowhere takes occasion to distinguish between the flimsy inductions of the Stagyrice in regard to the objects in dispute, and which he himself had instituted, or to hint at the very different complexion which philosophy must assume, according as the one kind or the other is resorted to.”*

* ‘On the Scope and Influence of the Philos. Writings of Bacon.’—Trans. of the Royal Society of Edinburgh, 1818. By far the best dissertation on this subject we have met with; full of curious matter and recondite research.

CHAPTER V.

WAS THE METHOD NEW, USEFUL, AND BACON'S
OWN?

BACON'S Method, and the scientific spirit which animates his works, have been indicated in the foregoing chapters. His philosophical importance is to be measured by that Method and that Spirit; not by any scientific discoveries. A mind so richly stored as his could not fail to illustrate his writings with manifold graces of style and with pregnant aphorisms. Accordingly, his Method having been established, and having done its work and been superseded, nothing remains for our profit but these very graces and aphorisms. The great Reformer may excite our admiration, *historically*; his Method excites no admiration for its present intrinsic value. We have a more perfect Method; the processes of scientific investigation are better understood; but we are never in communion with his vast and penetrating intellect, without acknowledging his greatness, for his remarks are often as applicable now as when first written. Hence the frequency of quotations from Bacon; and these quotations, as Dr. Whewell observes, are more frequently made by metaphysical, ethical, and even theological writers, than they are by the authors of works on Physics. For the present generation, then, whatever the value of Bacon's works, Bacon's Method is useless. Some modern writers have asserted

that it was always useless ; and this assertion has been supported by arguments so plausible, that they demand attention.

The objections made to Bacon's Method are of three kinds : 1st. It was nothing new ; 2nd. It was useless as a guide to investigation ; 3rd. It was already latent in the scientific spirit then abroad, and must have been elicited by some one sooner or later.

" It was nothing new." This is a very frequent objection. We select two of the most worthy antagonists, the Count Joseph de Maistre and Mr. Macaulay. The former has written a long chapter to prove that Bacon's Induction is nothing more than the Induction of Aristotle ; and Mr. Macaulay, who adopts the same opinion, devotes several vivacious pages to show that everybody unconsciously practises this Method. M. de Maistre's *Examen de la Philosophie de Bacon*, is a vehement attack upon Bacon, written with the celebrated author's usual vivacity, but with more than his usual arrogance and passion. As there are many things in Bacon either hasty, inexact, or partaking of the prejudices and errors of his age, his antagonist is at no loss to find matter for ridicule ; but when he treats of Bacon's Method and Spirit as contemptible puerilities, he only excites in the dispassionate reader a smile. What are his arguments against Bacon's Method ? First, That Aristotle had analysed it before him ; secondly, That Induction is only one form of a syllogism.

It is true that Aristotle told us what Induction was ; but it is not true that he analysed it, as Bacon has done ; nor did he ever pronounce it to be *the* Method of inquiry : on the contrary, it only

served him as *one* of the means of ascertaining truth, and was not half so much employed as the Syllogism. Bacon asserts Induction to be the only Method, and has no words too strong to express his scorn of the syllogism "which may catch the assent, but lets the things slip through." In short, as Dugald Stewart observes, we might as well declare that the ancients had anticipated Newton because they too used the word "attraction," as that Aristotle anticipated Bacon because he too speaks of "Induction."*

But M. de Maistre says that Induction and Syllogism are the same. "At bottom, what is Induction? Aristotle clearly saw it: *It is a syllogism without the middle term*—(ἔστι δὲ ὁ τοιοῦτος συλλογισμὸς τῆς πρώτης καὶ ἀμέσου προτάσεως. Anal. prior ii. 12.)

"What does it signify whether I say—*every simple being is indestructible by nature; now my soul is a simple being, therefore, &c.*; or whether I say directly—*My soul is simple, therefore it is indestructible*. In either case it is the syllogism which is virtually in the induction, as it is in the enthymem."

Now it is quite true that every induction may be thrown into the form of a syllogism by supplying the major premiss; and it is this which led Archbishop Whately to conclude that induction itself is but a peculiar case of ratiocination, and that the universal type of all reasoning is the syllogism. We cannot but agree with John Mill in holding precisely the reverse opinion, and believing

* 'Philos. of Mind,' vol. ii. chap. iv. sect. 2. The reader will do well to consult the whole chapter. It contains a triumphant refutation of the notion we are examining.

that ratiocination itself is resolvable into Induction.* Be this as it may, M. de Maistre has afforded us an illustration of the difference between Aristotle and Bacon in the very passage quoted.

If every induction can be thrown into the form of a syllogism by supplying the major premiss, it is in the way this major premiss is established that we must seek the real difference between the Syllogistic and Inductive Methods: and that difference is the difference between *à priori* and *à posteriori*. Every one who has read Bacon knows that his scorn for the Syllogism is not scorn for it as a form of ratiocination, but as a means of investigation. He objects to proceeding to deduce from an axiom not accurately and inductively obtained, consequences which may very well be contained in the axiom, but yet have no relation to the truth of things. "The axioms in use being derived from slender experience and a few obvious particulars, are generally applied in a corresponding manner; no wonder they lead not to new particulars."† Again: "Syllogism consists of propositions, propositions of words, and words are the signs of notions; therefore, if our *notions, the basis of all*, are confused, and *over-hastily taken from things*, nothing that is built upon them can be firm; whence our only hope rests upon genuine Induction."‡

Nothing can be more explicit. Bacon very well knew the difference between his Method and that of the Aristotelians; and he very well expressed this difference. To turn round upon him and say

* See 'System of Logic: Inductive and Ratiocinative, vol. i. pp. 372, 3.

† 'Nov. Org.,' Aph. 25.

‡ Ib., Aph. 14.

all Induction is itself but Syllogism, is mere sophistry. He was not giving a logical analysis of the mind; he was warning men against long-standing errors, and pointing out to them the path of truth.

Mr. Macaulay's arguments are of a different stamp. To us they seem only ingenious and plausible; and so ingenious and so plausible as to gain many followers. They are mostly true as far as they go, but do not appear to us to go to the real point. We shall select the main parts of his opposition:—

“The inductive method has been practised ever since the beginning of the world by every human being. It is constantly practised by the most ignorant clown; who by this method is led to the conclusion, that if he sows barley he shall not reap wheat. A plain man finds his stomach out of order. He never heard of Lord Bacon's name. But he proceeds in the strictest conformity with the rules laid down in the second book of the ‘*Novum Organum*,’ and satisfies himself that mince pies have done the mischief. ‘I ate mince pies on Monday and Wednesday, and was kept awake by indigestion all night.’ This is the *comparentia ad intellectum instantiarum convenientium*. ‘I did not eat any on Tuesday and Friday, and I was quite well.’ This is the *comparentia instantiarum in proximo quæ natura data privantur*. ‘I ate very sparingly of them on Sunday, and was very slightly indisposed in the evening. But on Christmas Day I almost dined on them, and was so ill that I was in some danger.’ This is the *comparentia instantiarum secundum magis et minus*. ‘It cannot be the brandy which I took with them; for I have drunk

brandy for years without being the worse for it.' This is the *rejectio naturarum*. We might easily proceed, but we have already sufficiently explained our meaning."

The answer to this is, that induction being the type of reasoning, of course so long as men have reasoned they have reasoned inductively. But there is correct induction, and incorrect induction; that is to say, even in ordinary cases men frequently pursue the induction *per enumerationem simplicem*, instead of the correct method; and at the time Bacon wrote, almost all philosophical and scientific speculations were vitiated by the incorrect method.

"Those who object to the importance of Bacon's precepts in philosophy," says Mr. Hallam, "that mankind have practised many of them immemorially, are rather confirming their utility than taking off much from their originality, in any fair sense of the term. Every logical method is built on the common faculties of human nature which have been exercised since the creation in discerning, better or worse, truth from falsehood, and inferring the unknown from the known. That men might have done this more correctly is manifest from the quantity of error into which, from want of reasoning well on what came before them, they have habitually fallen. In experimental philosophy, to which the more special rules of Lord Bacon are generally referred, there was a notorious want of that very process of reasoning which he supplied."* "Nothing can be more certain," as Professor Napier observes, "than that Bacon rests the whole hopes of his philosophy on the *novelty* of his

* 'Hist. of Lit. of Europe,' vol. iii. p. 182.

logical precepts; and that he uniformly represents the ancient philosophers, particularly Aristotle, as having been wholly regardless of the inductive method in their physical inquiries. Bacon does not indeed say that the ancient philosophers never employed themselves in observing Nature; but he maintains that there is a wide difference between observation as it was employed by them, and the art of observing for the purposes of philosophical discovery.”*

Men in Bacon's time reasoned like the facetious judge in Mr. Macaulay's anecdote, “who was in the habit of jocosely propounding after dinner a theory, that the cause of the prevalence of Jacobinism was the practice of bearing three names. He quoted on the one side Charles James Fox, Richard Brinsley Sheridan, John Horne Tooke, John Philpot Curran, Samuel Taylor Coleridge, Theobald Wolfe Tone. These were *instantiæ convenientes*. He then proceeded to cite instances *absentiæ in proximo* — William Pitt, John Scott, William Wyndham, Samuel Horsley, Henry Dundas, Edmund Burke. He might have gone on to instances *secundum magis et minus*. The practice of giving children three names has been for some time a growing practice, and Jacobinism has also been growing. The practice of giving children three names is more common in America than in England. In England we have still a king and a House of Lords; but the Americans are repub-

* ‘Dissertation on the Scope and Influence of Bacon's Writings,’ p. 13. See also a splendid passage to the same effect in Herschel's ‘Discourse,’ pp. 113, 114, which we do not quote, because the work is in everybody's hands, or ought to be.

licans. The *rejectiones* are obvious. Burke and Wolfe Tone were both Irishmen ; therefore the being an Irishman is not the cause. In this way our inductive philosopher arrives at what Bacon calls the *vintage*, and pronounces that having three names is the cause of Jacobinism."

This is a very good theory for a jocular one ; but we are surprised at so acute a writer as Mr. Macaulay speaking of it in the terms he does : "Here is an induction corresponding with Bacon's analysis, and ending in a monstrous absurdity. In what then does this induction differ from the induction which leads us to the conclusion that the presence of the sun is the cause of our having more light by day than by night ? The difference evidently is, *not in the kind of instances but in the number of instances* ; that is to say, the difference is not in that part of the process for which Bacon has given precise rules, but in a circumstance for which no precise rule can possibly be given. If the learned author of the theory about Jacobinism had enlarged either of the tables a little, his system would have been destroyed. The names of Tom Paine and William Windham Grenville would have been sufficient to do the work."

We especially dissent from the clause printed in italics, which seems to us at variance with all sound induction. It is precisely the *kind* of instances adduced in the theory which makes the theory absurd. The whole theory is a gross example of "causation inferred from casual conjunction, without any presumption arising from known properties of the supposed agent, which is the characteristic of empiricism." Although in this theory there has been a certain superficial elimination em-

ployed, yet that is obviously too incomplete for any satisfactory result. Mr. Macaulay subsequently asks—What number of instances is sufficient to justify belief? After how many experiments would Jenner have been justified in believing vaccination to be a safeguard against the smallpox? We answer that the *number* of instances depends on the *kind* of instances, and on the *theory* which presides over their collection. In proportion as the facts adduced are complex, must the theory which would explain them be consistent with all other known truths, before the facts themselves can have any significance. Thus the facts brought forward to support the theory of *clairvoyance* are utterly insignificant, although they have been collected by hundreds. One or two simple facts would be decisive. Thus it is pretended that during the state of coma, the patient can read with his eyes completely guarded from the light. To prove this, bandages are tied across his eyes, and books and letters are presented to him. He reads these, and people are amazed. Now we would suggest a very simple and decisive experiment. Do not bandage the patient's eyes; let them be open, but let the *book* be shut. If the patient can read in spite of the bandage, he can surely read in spite of the book-cover? The only precaution necessary is that neither the person holding the book, nor the patient reading it, should have any previous knowledge of its contents.

Bacon's originality is in no way affected by proving that all men at all times, when they reasoned correctly, reasoned inductively. Moreover, in Bacon's particular department, men had notoriously pursued a wrong method: they were not

aware of the necessity which he declared there was in all investigations, to proceed upon a *graduated and successive induction*. Bacon first made them aware of this; and, as Dr. Whewell says, "the truly remarkable circumstance is to find this recommendation of a continuous advance from observation by limited steps, through successive gradations of generality, given at a time when speculative men in general had only just begun to perceive that they must begin their course from experience in some way or other. . . . In catching sight of this principle, and in ascribing to it its due importance, Bacon's sagacity, so far as I am aware, wrought unassisted and unrivalled."*

We cite this to support our assertion of Bacon's originality, but we do not coincide in its admiration of Bacon's principle of "graduated induction," which is an imperfect process, as will be shown presently in treating of the utility of Bacon's method.

After the foregoing testimonies we shall take for granted that the reader is prepared to admit the originality of Bacon's method.

The second question now presents itself. Was the method useful as a guide in investigation? Many persons have declared it to be useless. Mr. Macaulay is of the same opinion. He says, with great truth, "By stimulating men to the discovery of *new* truth, Bacon stimulated them to employ the inductive method—the only method by which truth can be discovered. By stimulating men to the discovery of *useful* truth, he furnished them with a motive to perform the inductive process well and

* 'Philos. of Inductive Sciences,' vol. ii. pp. 395, 396.

carefully. His predecessors had been anticipators of nature. They had been content with first principles, at which they had arrived by the most scanty and slovenly induction. And why was this? It was, we conceive, because their philosophy proposed to itself no practical end, because it was merely an exercise of the mind. A man who wants to contrive a new machine or a new medicine has a strong motive to observe patiently and accurately, and to try experiment after experiment; but a man who merely wants a theme for disputation or declamation has no such motive."

Now in this passage, as it seems to us, the very merit we are claiming for Bacon is conceded. We are told that Bacon stimulated men to employ the inductive method, the only method by which new truth could be discovered. But who originated the method?—Bacon. Who pointed out the futility of anticipating Nature?—Bacon. Who exposed the "scanty and slovenly induction" of the schoolmen?—Bacon. His merit therefore is not simply that of stimulating men to the discovery of new lands, but of also affording them chart and compass wherewith to discover the new lands. There were several eminent men, his predecessors and contemporaries, who all rose up against the ancient systems, and stimulated men to the discovery of useful truth; but these men, although all of them constantly insisted upon observation and experiment, had no glimpse, or only a very partial and confused glimpse, of the inductive method. So that when Mr. Macaulay says, "It was not by furnishing philosophers with rules for performing the inductive process well, but by furnishing them with a motive for performing it well, that he con-

ferred so vast a benefit on society," we believe he is contradicted on all sides by history. The *motive* had been given by many—indeed, one may say that it was a tendency of the age; the *rules* had been devised by no one but himself. These rules, it is true, were far from perfect; but they constitute the beginning and form the basis of the more perfect structure which successors have erected. Mr. Macaulay's argument receives its force solely from what we cannot but regard as his misconception of the Baconian Induction. That Induction he declares to be daily performed by every man; but this is confounding ordinary Induction with scientific Induction. It is confounding a simple *inference* with a long and complicated process of reasoning. It is confounding what Bacon incessantly and emphatically distinguishes: viz., *Induction* with the *Inductive Method*; and this confusion has probably influenced him in the selection of his illustrations. None of the things he has named require a complicated process of reasoning for their discovery. If a man wants to make a shoe, he is certainly in no need of the Inductive Method; but if he wants to discover a law of Nature, the Inductive Method is indispensable. Mr. Macaulay will not maintain that the ordinary man, who wishes to find out a law of Nature, proceeds in his inquiry by a graduated and successive induction from particulars to generals, and from generals to those which are still more general; and this without "anticipation" of Nature—without rash and hasty leaping from one particular to some extreme generality. In fact, although *Induction*, as the type of reasoning, must be carried on by every reasoning animal, yet so far is the *Inductive Method* from

being the ordinary process of ordinary men, that we know of scarcely any process *so contrary* to the natural bias of the mind. Bacon has more than once alluded to this bias, whereby we judge hastily, and on the slenderest evidence. Indeed, the *Inductive Method* requires a constant and watchful repression of our natural tendency to "anticipate," and to endeavour, by a short cut, to abridge the long journey which conducts us to Truth.

But while we think Mr. Macaulay underrates the importance of the inductive rules, we quite agree with him that Bacon overrated their importance. "Our method of discovery in science," so runs one of his aphorisms, "is of such a nature that there is not much left to acuteness and strength of genius, but all degrees of genius and intellect are brought nearly to the same level."* This is contradicted by every two men engaging in scientific pursuits. The truth is, the method, however excellent when followed, cannot force men to follow it: the natural bias of the mind is against it. Mr. Macaulay, therefore, is perfectly right in preferring the spirit of Bacon's method to the rules given in the second book of the *Organum*.

There is, however, another reason why the spirit is preferable to the rules; and that reason is the incompleteness of those rules. As this touches the question of the utility of the method very nearly, we may dwell upon it for a while.

The radical defect of Bacon's method is being solely *inductive*, and not also *deductive*. He was so deeply impressed with a sense of the insufficiency of the deductive method alone, which he

saw his contemporaries pursuing, and which he knew to be the cause of the failure of his predecessors, that he bestowed all his attention on the inductive method. His want of mathematical knowledge had also no small share in this.

Although, however, it may be justly said that he did not sufficiently exemplify the Deductive Method, it is not correct to say that he entirely neglected it. Those who assert this forget that the second part of the *Novum Organum* was never completed. In the second part it was his intention to treat of Deduction, as is plain from the following passage: "The indications for the interpretation of nature include two general parts. The first relates to the raising of Axioms from experience; and the second, to the *deducing or deriving of new experiments from Axioms* (de ducendis aut derivandis experimentis novis ab axiomatibus.)* We here see that he comprehended the two-fold nature of the method; but inasmuch as he did not publish the second part of his *Organum*, we may admit the remark of Prof. Playfair, that "in a very extensive department of physical science it cannot be doubted that investigation has been carried on, not perhaps more easily, but with a less frequent appeal to experience than the rules of the *Novum Organum* would seem to require. In all physical inquiries where mathematical reasoning has been employed, after a few principles have been established by experience, a vast multitude of truths, equally certain with the principles themselves, have been deduced from them by the mere application of geometry and algebra. . . . The strict

* 'Nov. Org.,' II. Aph. 10.

method of Bacon is, therefore, only necessary where the thing to be explained is new, and where we have no knowledge, or next to none, of the powers employed.”*

We repeat, it was Bacon's deficiency in mathematical knowledge which caused him to overlook the equal importance of deduction with induction. On this subject we will quote a passage from the highest authority we know of:—“Bacon has judiciously remarked, that the *axiomata media* of every science principally constitute its value. The lowest generalizations, until explained by and resolved into the middle principles, of which they are the consequences, have only the imperfect accuracy of empirical laws; while the most general laws are too general, and include too few circumstances to give sufficient indication of what happens in individual cases, where the circumstances are almost always immensely numerous. In the importance, therefore, which Bacon assigns in every science to the middle principles, it is impossible not to agree with him. But I conceive him to have been radically wrong in his doctrine respecting the mode in which these *axiomata media* should be arrived at; although there is no one proposition in his works for which he has been so extravagantly eulogized. He enunciates as an universal rule that induction should proceed from the lowest to the middle principles, and from those to the highest, never reversing that order, and consequently leaving no room for the discovery of new principles by way of deduction at all. It is not to be conceived that a man of Bacon's sagacity could have fallen into this

* ‘Dissertation,’ pp. 58, 61.

mistake, if there had existed in his time, among the sciences which treat of successive phenomena, one single deductive science, such as mechanics, astronomy, optics, acoustics, &c., now are. In those sciences it is evident that the higher and middle principles are by no means derived from the lowest, but the reverse. In some of them the very highest generalizations were those earliest ascertained with any scientific exactness; as, for example (in mechanics), the laws of motion. Those general laws had not indeed at first the acknowledged universality which they acquired after having been successfully employed to explain many classes of phenomena to which they were not originally seen to be applicable; as when the laws of motion were employed in conjunction with other laws to explain deductively the celestial phenomena. Still the fact remains, that the propositions which were afterwards recognised as the most general truths of the science, were, of all its accurate generalizations, those earliest arrived at.

Bacon's greatest merit, therefore, cannot consist, as we are so often told that it did, in exploding the vicious method pursued by the ancients of flying to the highest generalizations for it, and deducing the middle principles from them; since this is neither a vicious nor an exploded method, but the universally accredited method of modern science, and that to which it owes its greatest triumphs. The error of ancient speculation did not consist in making the largest generalizations first, but in making them without the aid or warrant of rigorous inductive methods, and applying them deductively without the needful use of that important

part of the deductive method termed verification.”*

This passage certainly lays bare the weakness of Bacon's method; and does so, we believe, for the first time. But we cannot *entirely* concur in the concluding paragraph. It is clear to us that, although Bacon did not see the real importance of the deductive method, he did see the futility of the deductive method employed before his time; and he saw, moreover, that the cause lay in the want of “verification”—in the want of “the aid or warrant of rigorous inductive methods:” this we must think his greatest merit—as we think his imperfect conception of the Deductive Method his greatest imperfection.

There is also another potent reason why the merely inductive method should not have contributed to any great discoveries; and we must again borrow from the ‘System of Logic’ the passage wherein this is exhibited:—

“It has excited the surprise of philosophers that the detailed system of inductive logic has been turned to so little direct use by subsequent inquirers, —having neither continued, except in a few of its generalities, to be recognised as a theory, nor having conducted in practice to any great scientific results. But this, though not unfrequently remarked, has scarcely received any plausible explanation; and some indeed have preferred to assert that all rules of induction are useless, rather than suppose that Bacon's rules are grounded upon an insufficient analysis of the inductive process. Such,

* Mill's ‘System of Logic,’ ii. pp. 524–6.

however, will be seen to be the fact, as soon as it is considered that Bacon entirely overlooked plurality of causes. All his rules tacitly imply the assumption, so contrary to all we know of nature, that a phenomenon cannot have more than one cause."*

In another passage, too long for extract, the same author points out a capital error in Bacon's view of the inductive philosophy, viz., his supposition that the principle of elimination (that great logical instrument which he had the immense merit of first bringing into use) was applicable in the same sense, and in the same unqualified manner, to the investigation of *co-existences*, as to that of the *successions of phenomena*.†

In conclusion, it may be said that Bacon's conception of a scientific method was magnificent, as far as it went; but in consequence of certain deficiencies, owing principally to the want of any established science as a model (for, as Mr. Craik remarks, you cannot have an Aristotle before Homer‡), the method he laid down was only *indirectly* useful. If it did not produce great discoveries, it certainly did exercise an important influence on the minds of those who were afterwards to make great discoveries. "The way to prove that Bacon's writings were powerful agents in the advancement of physical knowledge," says Pro-

* Mill's 'System of Logic,' ii. p. 373.

† *Ib.* ii., p. 127, *et seq.*

‡ 'Sketches of Literature and Learning in England,' vol. iii. p. 217; where, by the way, the extreme opinions of Bacon's antagonists are adopted, and the influence he exercised is questioned. On the other hand, an elegant tribute is paid to Bacon's greatness as a thinker and writer.

fessor Napier, "is to prove that they produced these effects (viz., the overthrow of existing methods—stimulus given to experimental inquiry—and ingenious views and principles requisite for such inquiry); and the proof that such effects were actually produced by them, must necessarily be derived from the testimony of those who early experienced, or became otherwise acquainted with their operation." And the greater part of his admirable Essay is devoted to this proof. It is to be regretted that this Essay has not been republished, since it is not generally accessible in its present shape; * and our own limits obviously forbid our extracting any of these proofs, because their multiplicity constitutes their force. Enough if we remark that the proofs are numerous and decisive, gathered not only from the English and French writers, but also from Italian and German.

And now the last question presents itself, Was not Bacon's Method latent in the scientific spirit of the age? Yes; just as much as the invention of the steam-engine was latent in the knowledge and tendencies of the age in which Watt invented it. What does invention here mean? It means the finding what others are still seeking: were it not hidden somewhere, no one could find it. What idleness therefore to endeavour to rob a great man of his fame by declaring that the thing found was lying ready to be found, and would have sooner or later been found by some one! Yes, by some one who had eyes to see what his fellow-men could not see: in fact, by some *other* great man! How was it that Bacon's immediate predecessors and

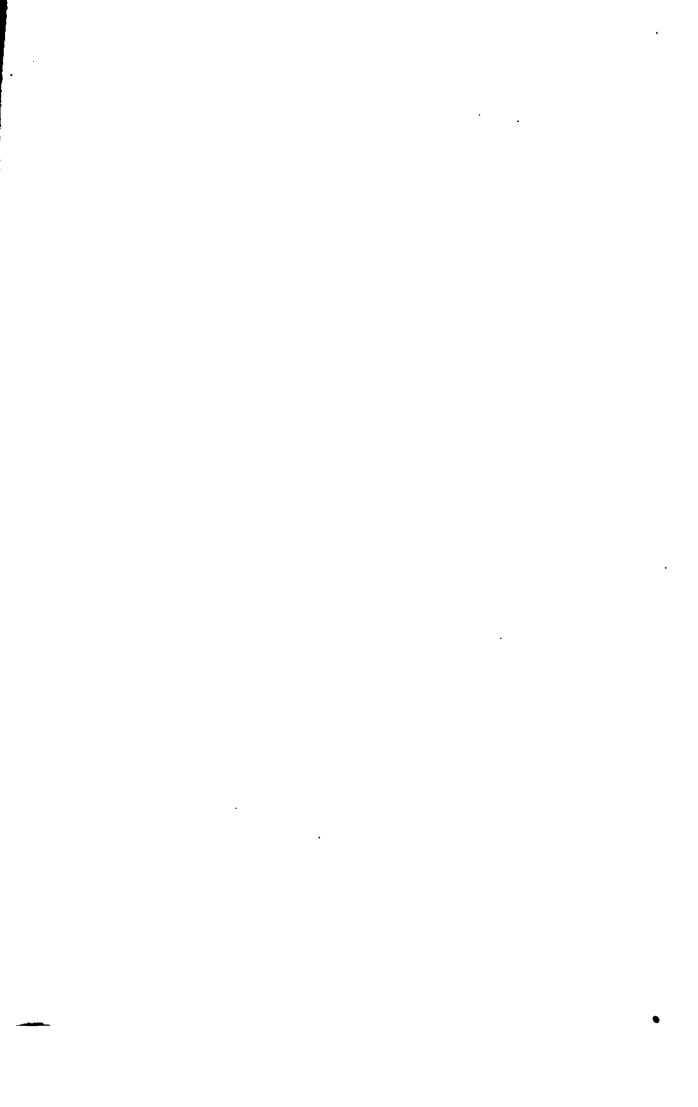
* 'Transactions of the Royal Society of Edinburgh,' 1818.

contemporaries did not detect this latent method? It was there lying as open for inspection to them as to him. Why did he alone find it? Because he alone was competent to find it.

It is very true that in his day and previously great discoveries had been made, and as they only could be made upon a true method, the method was implied in them. But this is no argument against Bacon's originality. "Principles of evidence," says Mr. Mill, "and theories of method are not to be constructed *à priori*. The laws of our rational faculty, like those of every other natural agency, are only learnt by seeing the agent at work. The earlier achievements of science were made without the conscious observance of any scientific method; and we should never have known by what process truth is to be ascertained if we had not previously ascertained truths." This is true; and if we consider for a moment the extreme paucity of ascertained truths in science at the time Bacon wrote, it will enhance our admiration of his marvellous sagacity, to see him do so much with such poor materials; as Playfair says, "the history of human knowledge points out nobody of whom it can be said that, placed in the situation of Bacon, he would have done what Bacon did—no man whose prophetic genius would enable him to delineate a system of science which had not yet begun to exist."

We must cease. Bacon is a great subject, and one as attractive as great; but our object here has been solely to exhibit his method, and to indicate its historical position. We have done nothing but point out the grounds upon which his fame, as the father of Experimental Philosophy, is built.

His method alone engaged us, because by it alone he claims a place in this history. We have not dwelt upon his errors; neither have we dwelt upon the wondrous and manifold excellences of that mind which Mr. Macaulay has so felicitously compared to the tent which the fairy Paribanou gave to Prince Ahmed. Fold it, and it seemed a toy for the hand of a lady: spread it, and the armies of powerful sultans might repose beneath its shade.



SECOND EPOCH.

FOUNDATION OF THE DEDUCTIVE METHOD.

CHAP. I. LIFE OF DESCARTES.

CHAP. II. HIS METHOD.

CHAP. III. APPLICATION OF THE METHOD.

CHAP. IV. IS THE METHOD TRUE?

CHAP. V. LIFE OF SPINOZA.

CHAP. VI. SPINOZA'S DOCTRINE.

CHAP. VII. FIRST CRISIS IN MODERN PHILOSOPHY.

CHAPTER I.

LIFE OF DESCARTES.

JUST at the close of the sixteenth century, 1596, there was born in Touraine, of Breton parents, a feeble sickly child, named René Descartes Duperron. A few days after his birth, a disease of the lungs carried off his mother. The sickly child grew to a sickly boy ; and, till the age of twenty, his life was always despaired of.

That boy was one the world could ill afford to lose. Few who saw him creeping on the path, which his companions galloped along like young colts, would have supposed that the boy, whose short dry cough and paleness seemed to announce an early grave, was shortly to become one of the world's illustrious leaders ; and whose works would three centuries after their appearance continue to be studied, quoted, and criticised. His masters loved him. He was a pupil of promise ; and in his eighth year had gained the title of the young philosopher, from his avidity to learn, and his constant questioning.

His education was confided to the Jesuits. This astonishing body has many evils laid to its door, but no one can refuse to it the praise of having been ever ready to see and make use of the value of education. In the college of La Flèche the young Descartes was instructed in mathematics,

physics, logic, rhetoric, and the ancient languages. He was an apt pupil; learnt quickly, and was never tired of learning.

Such was the food supplied by the Jesuits. Was it nutritious? As M. Thomas remarks, "there is an education for the ordinary man; for the man of genius there is no education but what he gives himself; the second generally consists in destroying the first." And so with Descartes; who, on leaving La Flèche, declared that he had derived no other benefit from his studies than that of a conviction of his utter ignorance, and a profound contempt for the systems of philosophy in vogue. The incompetence of philosophers to solve the problems they occupied themselves with—the anarchy which reigned in the scientific world, where no two thinkers could agree upon fundamental points—the extravagances of the conclusions to which some accepted premisses led, determined him to seek no more to slake his thirst at their fountains.

"And that is why, as soon as my age permitted me to quit my preceptors," he says, "I entirely gave up the study of letters; and resolving to seek no other science than that which I could find in myself, or else in the great book of the world, I employed the remainder of my youth in travel, in seeing courts and camps, in frequenting people of diverse humours and conditions, in collecting various experiences, and above all in endeavouring to draw some profitable reflection from what I saw. For it seemed to me that I should meet with more truth in the reasonings which each man makes in his own affairs, and which if wrong would be speedily punished by failure, than in those reason-

ings which the philosopher makes in his study, upon speculations which produce no effect, and which are of no consequence to him, except perhaps that he will be more vain of them the more remote they are from common sense, because he would then have been forced to employ more ingenuity and subtlety to render them plausible.”*

For many years he led a roving unsettled life; now serving in the army, now making a tour; now studying mathematics in solitude, now conversing with scientific men. One constant purpose gave unity to these various pursuits. He was elaborating his answers to the questions which perplexed him; he was preparing his Method.

When only three-and-twenty he conceived the design of a reformation in philosophy.† He was at that time residing in his winter quarters at Neuburg, on the Danube. His travels soon afterwards commenced, and at the age of thirty-three he retired into Holland, there in silence and solitude to arrange his thoughts into a consistent whole. He remained there eight years; and so completely did he shut himself from the world, that he concealed from his friends the very place of his residence.

When the results of this meditative solitude were given to the world, in the shape of his celebrated ‘Discourse on Method,’ and his ‘Meditations’ (to which he invited replies), the sensation produced was immense. It was evident to all men that an original and powerful thinker had arisen; and although of course this originality could not but

* ‘Discours de la Méthode,’ p. 6 of the convenient edition of M. Jules Simon. Paris, 1844.

† Compare Bacon at College.

rouse much opposition from the very fact of being original, yet Descartes gained the day. His name became European. His controversies were European quarrels. Charles I. of England invited him over, with the promise of a liberal appointment; and the invitation would probably have been accepted had not the civil war broken out. He afterwards received a flattering invitation from Christina of Sweden, who had read some of his works with great satisfaction, and wished to learn from himself the principles of his philosophy. He accepted it, and arrived in Stockholm in 1649. His reception was most gratifying, and the queen was so pleased with him as earnestly to beg him to remain with her, and give his assistance towards the establishment of an academy of sciences. But the delicate frame of Descartes was ill fitted for the severity of the climate, and a cold, caught in one of his morning visits to Christina, produced inflammation of the lungs which put an end to his existence. Christina wept for him; had him interred in the cemetery for foreigners, and placed a long eulogium upon his tomb. His remains were subsequently, 1666, carried from Sweden into France, and buried with great ceremony in St. Genevieve du Mont.

Descartes was a great thinker; but having said this we have almost exhausted the praise we can bestow upon him as a man. In disposition he was timid to servility. When promulgating his proofs of the existence of the Deity he was in evident alarm lest the church should see something objectionable in them. He had also written an astronomical treatise; but hearing of the fate of Galileo, he refrained from publishing, and always used some

chicane in speaking of the world's movement. He was not a brave man; he was also not an affectionate one. There was in him a deficiency of all "finer feelings." But he was even-tempered, placid, and studious of not giving offence. In these, as in so many other points, he resembles his illustrious rival, Francis Bacon; but his name has descended spotless to posterity, while Bacon's has descended darkened with more spots than time can efface. But it would be hard to say how much difference of *position* had to do with this difference of moral purity. Had Bacon lived in his study, we should have only praises for his name!

CHAPTER II.

THE METHOD OF DESCARTES.

THERE have been disputes as to Bacon's claim to the title of Father of Experimental Science, but no one disputes the claim of Descartes to the title of Father of Modern Philosophy. Ontology and Psychology are still pursued upon his Method; and his speculations are still proudly referred to by most continental thinkers as perfect, or almost perfect, examples of that method.

Throughout the epoch which preluded that in which he lived, there had been a slow but progressive tendency towards the separation of Philosophy from Theology. In Abelard we see the commencement of this tendency: he constantly declared that Reason ought to explain Faith; that what we believe we ought to comprehend. To this doctrine he fell a victim. In Descartes we see the same tendency at its climax; and in him the existence of philosophy is a thing established beyond controversy; he boldly attempts to solve by reason alone the problems which hitherto had been solved by faith.

In his dedication of the *Meditations* to the Sorbonne, he says:—"I have always thought that the two questions of the existence of God, and the nature of the soul, were the chief of those which ought to be demonstrated rather by philosophy than by theology: for although it is sufficient for

us, the faithful, to believe in God, and that the soul does not perish with the body, it certainly does not seem possible ever to persuade the infidels to any religion, nor hardly to any moral virtue, unless we first prove to them these two things by natural reason." Extraordinary language, which shows how completely philosophy had gained complete independence.

But if philosophy is to be independent—if reason is to walk alone, in what direction must she walk? Having relinquished the aid of the church, there were but two courses open: the one, to tread once more in the path of the ancients, and to endeavour by the ancient Methods to attain the truth; or else to open a new path, to invent a new Method. The former was barely possible: the spirit of the age was deeply imbued with a feeling of opposition against the ancient Methods; and Descartes himself had been painfully perplexed by the universal anarchy and uncertainty which prevailed. The second course was therefore chosen.

What was the disease of the epoch? Uncertainty. Scepticism was not only abounding, but even the most confident dogmatism could give no criterium of certitude. This want of a criterium we saw leading in Greece to Scepticism, Epicureanism, Stoicism, the New Academy, and finally leading the Alexandrians into the province of faith to escape from the dilemma. The question of a criterium had long been the vital question of philosophy. Descartes could get no answer to it from the doctors of his day. Unable to find firm ground in any of the prevalent systems; distracted by doubts; mistrusting the conclusions of his own understanding; mistrusting the evidences of his

senses, he determined to make a *tabula rasa*, and reconstruct his knowledge. He resolved to examine the premisses of every conclusion, and to believe nothing but upon the clearest evidence of reason : evidence so convincing, that he could not by any effort refuse assent to it.

He has given us the detailed history of his doubts. He has told us how he found that he could plausibly enough doubt of everything, except of his own existence. He pushed his scepticism to the verge of self-annihilation. There he stopped : there in Self,—there in his Consciousness, he found at last an irresistible Fact, an irreversible Certainty.

Firm ground was discovered. He could doubt the existence of the external world, and treat it as a phantasm. He could doubt the existence of God, and treat the belief as a superstition. But of the existence of his thinking, doubting mind, no sort of doubt was possible. He, the doubter, existed, if nothing else existed. The existence that was revealed to him in his own Consciousness was the primary Fact, the first indubitable Certainty. Hence his famous *Cogito, ergo Sum* : I think, therefore I am.

It is somewhat curious, and, as an illustration of the frivolous verbal disputes of philosophers, not a little instructive, that this celebrated *Cogito, ergo Sum*, should have been frequently attacked for its logical imperfection. It has been objected, from Gassendi downwards, that to say “I think, *therefore* I am,” is a begging of the question, since existence has to be *proved* identical with thought. Certainly, if Descartes had intended to prove his own existence by reasoning, he would have been guilty of the *petitio principii* Gassendi attributes to

him, viz.: that the major premiss, "that which thinks exists," is assumed, not proved. But he did not intend this.

What was his object? He has told us. It was to find a starting-point from which to reason; it was to find an irreversible certainty. And where did he find this? In his own consciousness. Doubt as I may, I cannot doubt of my own existence, because my very doubt reveals to me a something which doubts. You may call this an assumption, if you will; I point out the fact to you as a fact above and beyond all logic; which logic can neither prove nor disprove; but which must always remain an irreversible certainty, and, as such, a fitting basis of philosophy.*

I exist. No doubt can darken such a truth; no sophism can confute this clear principle. This is a certainty, if there be none other. This is the basis of all science. It is in vain to ask for a proof of that which is self-evident and irresistible. I exist. The *consciousness* of my existence is to me the assurance of my existence.

Had Descartes done no more than point out this fact, he would have no claim to notice here; and we are surprised to find many writers looking upon this *Cogito, ergo Sum*, as constituting the great feature in his system. Surely it is only a statement of universal experience—an epigrammatic form given to the common-sense view of the matter. Any clown would have told him that the assurance of his existence was his consciousness of it; but the clown would not have stated it so

* See his replies to the third and fifth series of Objections, affixed to his 'Meditations.'

well; he would have said: I know I exist, because I *feel* that I exist.

Descartes, therefore, made no discovery in pointing out this fact as an irresistible certainty. The part it plays in his system is only that of a starting-point. It makes *consciousness* the basis of all truth: there is none other possible. Interrogate consciousness, and its clear replies will be Science.

Here we have a new Method, and a new Philosophy, introduced. It was indeed but another shape of the old formula, "Know thyself," so differently interpreted by Thales, Socrates, and the Alexandrians; but it gave that formula a precise signification: a thing it had before always wanted. Of little use could it be to tell man to know himself. How is he to know himself? By looking inwards? We all do that. By examining the nature of his thoughts? That had been done without success. By examining the *process* of his thoughts? That too had been accomplished, and the logic of Aristotle was the result.

The formula needed a precise interpretation; and that interpretation Descartes gave. Consciousness, said he, is the basis of all knowledge; it is the only ground of absolute certainty; whatever it distinctly proclaims must be true. The process then is simple: examine your consciousness, and its clear replies will be Science.

Hence the vital portion of his system lies in this axiom: *all clear ideas are true*: whatever is clearly and distinctly conceived is true. This axiom he calls the foundation of all science, the rule and measure of truth.*

* "Hâc igitur detectâ veritate simul etiam invenit omnium scientiarum fundamentum: ac etiam omnium aliarum

The next step to be taken was to determine the rules for the proper detection of these ideas ; and these rules he has laid down as follows :—

I. Never to accept anything as true, but what is *evidently* so ; to admit nothing but what so clearly and distinctly presents itself as true that there can be no reason to doubt it.

II. To divide every question into as many separate questions as possible ; that each part being more easily conceived, the whole may be more intelligible.—(Analysis.)

III. To conduct the examination with order, beginning by that of objects the most simple, and therefore the easiest to be known, and ascending little by little up to knowledge of the most complex.—(Synthesis.)

IV. To make such exact calculations, and such circumspections as to be confident that nothing essential has been omitted.

Consciousness being the ground of all certainty, every thing of which you are clearly and distinctly conscious must be true : every thing which you clearly and distinctly conceive exists, if the idea of it involves existence.

In the four rules, and in this view of consciousness, we have only half of Descartes' Method : the psychological half. It was owing, we believe, to the exclusive consideration of this half that Dugald Stewart was led (in controverting Condorcet's assertion that Descartes had done more than either Galileo or Bacon towards experimental philosophy) to say that Condorcet would have been nearer the

veritatem mensuram ac regulam ; scilicet, quicquid tam clarè ac distinctè percipitur quàm istud verum est.—*Princip. Phil.* p. 4.

truth if he had pointed him out as the Father of the Experimental Philosophy of the Mind. Perhaps the title is just; but Condorcet's praise, though exaggerated, was not without good foundation.

There is, in truth, another half of Descartes equally important, or nearly so. We mean the Mathematical or Deductive Method. His eminence as a mathematician is universally recognised. He was the first to make the grand discovery of the application of algebra to geometry, and he made this at the age of twenty-three. The discovery that geometrical curves might be expressed by algebraical numbers, though highly important in the history of mathematics, only interests us here, inasmuch as it puts us on the trace of his career. We see him deeply engrossed in mathematics; we see him awakening to the conviction that mathematics were capable of a still further simplification, and of a far more extended application. Struck as he was with the certitude of mathematical reasoning, he began applying the principles of mathematical reasoning to the subject of metaphysics.

His great object was, amidst the scepticism and anarchy of his contemporaries, to found a system that should be solid and convincing. He first wished to find a basis of certitude—a starting point, and found it in consciousness. He next wished to find a method of certitude, and found it in mathematics.

“Those long chains of reasoning,” he tells us, “all simple and easy, which geometers use to arrive at their most difficult demonstrations, suggested to me that all things which came within human knowledge must follow each other in a

similar chain ; and that provided we abstain from admitting anything as true which is not so, and that we always preserve in them the order necessary to deduce one from the other, there can be none so remote to which we cannot finally attain, nor so obscure but that we may discover them.”*

From these glimpses of the twofold nature of Descartes' Method, it will be easy to see into his whole system. The psychological and mathematical Methods are in him inseparable—consciousness being the only ground of certitude ; mathematics the only method of certitude.

We may say, therefore, that the Deductive Method was now completely constituted. The whole operation of philosophy consisted in deducing consequences. The premisses had been found ; the conclusions alone were wanting. This applies as much to physics as to psychology. Thus, in his ‘Principia,’ he announces his intention of giving a short account of the principal phænomena of the world, not that he may use them as reasons to prove anything ; for he adds, “we desire to *deduce effects from causes, not causes from effects* ; but only in order that out of the innumerable effects which we learn to be capable of resulting from the same causes, we may determine our minds to consider some rather than others.”†

* ‘Discours de la Méthode,’ p. 12.

† ‘Principia Philos.’ pars iii. p. 51. The phrase, “*cupimus enim rationes effectuum à causis, non autem à contrariis causarum ab effectibus deducere,*” may be said to express the nature of his method, as opposed to the method of Bacon. When M. Jules Simon says “The commencement of philosophy for Descartes is Doubt: that alone is all his entire method—*cela seul est toute sa Méthode* (Introduction prefixed to his edition of Descartes, p. 3) he mistakes,

Such being the Method of Descartes, our readers will hear with surprise that some French writers have declared it to be the same Method as that laid down by Bacon; and this surprise will be heightened on learning that a philosopher of such reputation as M. Victor Cousin is one of those writers. He says, "Let us now see what our Descartes has done. He has established in France the same method that England has endeavoured to attribute exclusively to Bacon; and he has established it with less grandeur of imagination in style, but with the superior precision which must always characterize one who, not content with laying down rules, puts them himself in practice, and gives the example with the precept."* M. Cousin then quotes the four rules we before quoted from Descartes; and seeing in them Analysis and Synthesis, which he believes constitutes the sole Method of Bacon, declares that the two Methods are one. This requires no refutation; nor indeed would it have been noticed, but as affording an illustration of the loose way in which the term Method is employed by certain writers.

In truth Bacon was the reverse side of the medal of Descartes. Bacon's deficiencies lay in that department where Descartes was greatest—in mathematics. Hence Bacon's over-valuation of Induction, and neglect of Deduction; hence also Descartes' over-valuation of Deduction and neglect of Induction. Both cultivated Physics: but Bacon made it the basis of all the sciences; Descartes made it a mere illustration of his principles. The

as it seems to us, the whole purpose of Descartes' artificial scepticism; besides how can a Doubt be a Method?

* 'Hist. de la Phil.' leçon iii. p. 91, ed. Bruxelles, 1840.

one argued from effects to causes—from the known to the unknown; the other deduced effects from causes—explaining phenomena by noumena—explaining that which presented itself to the senses by that which was intuitively known. Both separated religion from philosophy; but Bacon declared the problems of religion and ontology insoluble by reason, and therefore beyond the province of science; Descartes declared them soluble *only* by reason, and that it was the first object of philosophy to solve them.

Besides these and other points of difference, there were also several points of resemblance, owing to the resemblance of their positions as reformers. They both overvalued their Methods, which they declare will enable all men to philosophize with equal justness. "It is not so essential to have a fine understanding," says Descartes, "as to apply it rightly. Those who walk slowly make greater progress, if they always follow the right road, than those who run swiftly, but run on a wrong one." This is precisely the thought of Bacon: "A cripple in the right path will beat a racer in the wrong one." But both these thinkers assume that the racer will *choose* the wrong path: whereas, if their methods are adopted, the finer understanding must always surpass the duller in the discovery of truth.

CHAPTER III.

APPLICATION OF THE METHOD.

To prove the existence of God was the first attempt of Descartes to apply his method ; not, as some say, to prove his own existence, for that neither admitted of *logical* proof nor of disproof: it was the primary fact.

Interrogating his consciousness, he found that he had the idea of God: understanding, by God, a substance infinite, eternal, immutable, independent, omniscient, omnipotent.

This, to him, was as certain a truth as the truth of his own existence. I exist: not only do I exist, but exist as a miserably imperfect, finite being—subject to change—greatly ignorant, and incapable of creating anything. In this, my consciousness, I find by my finitude that I am not the All; by my imperfection, that I am not perfect. Yet an infinite and perfect being must exist, because infinity and perfection are implied, as correlatives, in my *ideas* of imperfection and finitude.

God, therefore, exists: his existence is clearly proclaimed in my consciousness, and can no more be a matter of doubt, when fairly considered, than my own existence.

The conception of an infinite Being proved his real existence; for if there is not really such a being, *I* must have made the conception; but if I could make it, I can also unmake it, which evi-

dently is not true: therefore there must be, externally to myself, an archetype from which the conception was derived.

"The ambiguity in this case," it has been remarked,* "is in the pronoun *I*, by which in one place is to be understood my *will*, in another *the laws of my nature*. If the conception, existing as it does in my mind, had no original without, the conclusion would unquestionably follow that *I* had made it—that is, the laws of my nature must have spontaneously evolved it; but that my *will* made it would not follow. Now, when Descartes afterwards adds that I cannot unmake the conception, he means that I cannot get rid of it by an act of my will, which is true, but is not the proposition required. That what some of the laws of my nature have produced, other laws, or those same laws in other circumstances, might not subsequently efface, he would have found it difficult to establish."

His second demonstration is the weakest of the three. Indeed, upon his principles, it is the only one not irrefragable. The third demonstration is peculiarly Cartesian, and may be thrown into this syllogism:—

All that we clearly and distinctly conceive as contained in any thing, is true of that thing.

Now we conceive, clearly and distinctly, that the existence of God is contained in the idea we have of him.

Ergo,

God exists.

* Mill's 'System of Logic,' ii. p. 447.

Having demonstrated the existence of God, he had to prove the distinction between body and soul. This, to him, was easy. The fundamental attribute of substance must be extension, because we can abstract from substance all the qualities except extension. The fundamental attribute of mind is thought, because by this attribute mind is revealed to itself. Now, according to one of his logical axioms, two substances are really distinct when their ideas are complete, and in no way imply each other. The ideas, therefore, of extension and thought being distinct, it follows that substance and mind are distinct in essence.

We need not pursue our analysis of his metaphysical notions further. We only stop to remark on the *nature* of his demonstrations of God and the soul. It is, and was, usual to prove the existence of God from what is called the "evidence of design,"—from the world, in fact. Descartes neither started from design nor from motion, which must have a mover: he started from the *à priori* ideas of perfection and infinity; his proof was in the clearness of his idea of God—in an analysis of his own mind. His method was that of definition and deduction. To define the idea of God, and hence to construct the world—not to contemplate the world, and hence infer the existence of God—was the route he pursued. Is it not eminently the procedure of a mathematician? and of a mathematician who has taken consciousness as his starting-point?

Descartes' speculations are beautiful exemplifications of his method; and he follows that method, even when it leads him to the wildest conclusions.

His physical speculations are sometimes admirable (he made some important discoveries in optics), but mostly fanciful. The famous theory of vortices deserves a mention here as an example of his method.

He begins by banishing the notion of a *vacuum*, not, as his contemporaries said, because Nature has a horror of a vacuum, but because the essence of substance being extension, wherever there is extension there is substance, consequently empty space is a chimera. The substance which fills all space must be assumed as divided into equal angular parts. Why must this be assumed?—Because it is the most simple, therefore the most natural supposition. This substance being set in motion, the parts are ground into a spherical form; and the corners thus rubbed off, like filings or sawdust, form a second and more subtle kind of substance. There is, besides, a third kind of substance, coarser and less fitted for motion. The first kind makes luminous bodies, such as the sun and fixed stars; the second kind makes the transparent substance of the skies; the third kind is the material of opaque bodies, such as earth, planets, &c. We may also assume that the motions of these parts take the form of revolving circular currents, or *vortices*. By this means the matter will be collected to the centre of each vortex, while the second or subtle matter surrounds it, and by its centrifugal effort constitutes light. The planets are carried round the sun by the motion of this vortex, each planet being at such a distance from the sun as to be in a part of the vortex suitable to its solidity and mobility. The motions are pre-

vented from being exactly circular and regular by various causes. For instance, a vortex may be pressed into an oval shape by contiguous vortices.*

Descartes, in his physics, adopted a method which permitted him to set aside the real *qualities* and the *substantial forms* (which others were seeking), and to consider only the relations of number, figure, and motion. In a word, he saw in physics only mathematical problems. This was premature. Science, in its infancy, cannot be carried on by the deductive method alone: that is reserved for the maturity of science. Descartes was unaware of that, and failed in consequence.

But this deductive method, though premature, was puissant. Science must employ it, and Bacon's greatest error was in not sufficiently acknowledging it. Hence we may partly account for the curious fact that Bacon, with his cautious method, made no discoveries, while Descartes, with his rash method, made important discoveries. Of course the greater physical knowledge of Descartes, and the greater attention bestowed by him upon physics, had something to do with this; but his method also assisted him, because his discoveries were of a kind to which the mathematical method was strictly applicable.

That Descartes had read Bacon there is no doubt. He has himself praised Bacon's works as leaving nothing to be desired on the subject of *experience*;

* We have followed Dr. Whewell's exposition of this theory, as given by him—'Hist. of Ind. Sciences,' ii. p. 134. The curious reader will do well, however, to turn to Descartes' own exposition, where it is illustrated by diagrams—'Principia Philosophiæ.'

but he perceived Bacon's deficiency, and declared that we are liable to collect many *superfluous* experiences of particulars, and not only *superfluous* but false, if we have not ascertained the truth *before* we make these experiences. In other words, experience should be the verification of an *à priori* conception; whereas Bacon teaches us to form our conceptions from experience.

We have said enough to make the method of Descartes appreciable. His position is that of founder of the deductive method on the basis of Consciousness. His scholars may be divided into the mathematical cultivators of physics, and the deductive cultivators of philosophy. By the first he was speedily surpassed, and his influence on them can only be regarded as an impulsion. By the second he was *continued*: his principles were unhesitatingly accepted, and only developed in a somewhat different manner.

His philosophical method subsists in the present day. It is the method implicitly or explicitly adopted by most metaphysicians in their speculations upon ontological subjects. Is it a good method? The question is of the highest importance: we shall endeavour in the next chapter to answer it.

CHAPTER IV.

IS THE METHOD TRUE?

IN the dedicatory epistle prefixed to his 'Meditations' Descartes declares that his demonstrations of the existence of God, &c., "equal, or even surpass, in certitude the demonstrations of geometry." Upon what does he found this belief? He founds it upon the very nature of certitude as conceived by him.

What is the basis of all certitude? Consciousness. Whatever I am distinctly conscious of, I must be certain of; all the ideas which I find in my consciousness, as distinctly conceived, must be true. The belief I have in my existence is derived from the fact of my consciousness: I *think*, therefore I *exist*. Now as soon as we think we conceive a truth with distinctness, we are irresistibly led to believe in it; and if that belief is so firm that we can never have any reason to doubt that which we believe, we have all the certitude that can be desired.

Further: we have *no knowledge whatever of anything external to us, except through the medium of ideas*. What is the consequence? The consequence is, says Descartes, that *whatever we find in the ideas must necessarily be in the external things*.

It is only in our minds that we can seek whether

things exist, or not. There cannot be more reality in an effect than in a cause. The external thing, being the cause of the idea, must therefore possess as much reality as the idea, and *vice versâ*. So that whatever we conceive as existent, exists.

This is the basis on which Descartes' system is erected; if this basis be rotten, the superstructure must fall. It is the root from which the tree has grown; if it is vitiated the tree will bear no fruit. No thinker, except Spinoza, has so clearly, so frankly stated his criterium. Let us then accept the challenge which it gives, since an opportunity is now afforded us of bringing together in a narrow field the defenders and antagonists of philosophy.

If Descartes is wrong—if consciousness is not the ultimate ground of certitude, embracing both objective and subjective—if ideas are not the internal copies of external things—then must philosophy be content to relinquish all claim to certitude, and find refuge again faith.

And Descartes is wrong. The very consciousness to which he appeals shall convict him. There is a fallacy in his system which may be briefly exposed. Consciousness is the ultimate ground of certitude, *for me*; if I am conscious that I exist, I cannot doubt that I exist; if I am conscious of pain, I must be in pain. This is self-evident.

But what ground of certitude can consciousness be respecting things which are *not me*? How does the principle apply? How far does it extend? It can only extend to things which relate *to me*. I am conscious of all that passes within *myself*; but I am not conscious of what passes in *not-self*: all that I can possibly know of the *not-self* is in its *effects upon me*.

Consciousness is, therefore, "cabin'd, cribb'd, confin'd" to *me*, and to what passes within *me*; so far does the principle of certitude extend, and no farther. Any other ideas we may have, any knowledge we may have respecting *not-self*, can only be founded on *inferences*. Thus I burn myself in the fire: I am conscious of the sensation; I have certain and immediate knowledge of it. But all that I can be certain of is that a change has taken place in my consciousness; when from that change I *infer* the existence of an external object (the fire), my inference *may* be correct, but I have obviously shifted my ground; consciousness—my principle of certitude—forsakes me here: I go out of myself to infer the existence of something which is not-self. My knowledge of the sensation was *immediate*, indubitable. My knowledge of the object is *mediate*, uncertain.

Directly therefore we leave the ground of consciousness for that of inference, our knowledge becomes questionable. Other inferences can be brought to bear upon any one inference to illustrate or to refute it. The mathematical certainty which Descartes attributed to these inferences therefore becomes a great uncertainty!

He says we only know things through the medium of ideas. Good; we will accept the proposition as unquestionable. But then he also says that, in consequence of this, *whatever we find in the ideas must necessarily be true of the things*.

His reason is, that as ideas are caused in us by objects, and as every effect must have as much reality as the cause—the effect being *equal* to the cause—so must ideas have the same reality as things.

But this is a doubtful fallacy. In the first

place an effect is not *equal* to its cause; it is a mere consequent of an antecedent, having no such relation as *equality* whatever. In the second place the use of the term reality is ambiguous. Unquestionably an effect *really* exists; but reality of existence does not imply *similarity of modes* of existence. The burn occasioned by a fire is as *real* as the fire; but it in no way *resembles* a fire.

So when Descartes says that what is true of ideas must be true of things, he assumes that the mind is a *passive* recipient—a mirror, in which things reflect themselves. That this is altogether fallacious, and that the mind is an *active* co-operator in all perception—that perception is a *consciousness of changes operated in ourselves*, not a *consciousness of the objects causing those changes*—we have formerly endeavoured to demonstrate.* In truth, so far from being able to apprehend the nature of things external to us, there is an impenetrable screen for ever placed before our eyes, and that impenetrable screen is the very Consciousness upon which Descartes relies. When placed in contact with external objects, they operate upon us; their *operations* we know, *themselves* we cannot know; precisely because our knowledge of them is *mediate*, and the medium is our Consciousness. Into whatever regions we wander, we carry with us this Consciousness, by means of which, indeed, we know, but all we know, is—*ourselves*.

Knowledge is composed of Ideas. Ideas are the joint product of an organization on the one

* See vol. ii. pp. 134-5, 153, and especially pp. 171-177.

hand, and of external causes on the other ; or rather we may say that Ideas are the products of that organization excited by external causes. Upon what principles of inference (since we are here on the ground of inference) can you infer that the ideas excited are *copies* of the exciting causes—that the Ideas excited apprehend the whole nature of the causes ?

The cause of the fallacy is in that very strong disposition to give objectively to a law of the mind ;* in consequence of which you so often hear people declare that something they are asserting is “ involved in the idea.”

There is one mode of escape left for those who believe in the validity of ontological speculations. That is, to assert the existence of *Innate Ideas*—or, as the theory is generally stated in modern times, of *Necessary Truths* independent of all experience. If the idea of God, for example, be innate in us, it is no longer a matter of Inference but of Consciousness ; and Descartes would have been correct in believing that the certainty of this idea equalled the certainty of geometry.

But Descartes, according to Dugald Stewart, did not assert the existence of Innate Ideas, though, from its having been a doctrine maintained by his followers, it is usually attributed to him. Dugald Stewart quotes the following passage from Descartes in reply to his adversaries, who accused him of holding the tenet of Innate Ideas :—

“ When I said that the idea of God is innate in us, I never meant more than this, that *Nature has endowed us with a faculty by which we may know*

* See it exposed in Mill's ‘ System of Logic,’ ii., p. 355.

God; but I have never either said or thought that such ideas had an actual existence, or even that they were a *species* distinct from the faculty of thinking. . . . Although the idea of God is so imprinted on our minds that every person has within himself the faculty of knowing him, it does not follow that there may not have been various individuals who have passed through life without ever making this idea a distinct object of apprehension; and, in truth, they who think they have an idea of a plurality of Gods have no idea of God whatever."

From this it would appear that he did not hold the doctrine of Innate Ideas. But we must venture to dissent from the conclusion drawn by Mr. Stewart on the strength of such a passage; and against that passage we will bring another equally explicit (we could bring fifty, if necessary), which asserts the existence of Innate Ideas. "By the word *idea*," he says, "I understand all that can be in our thoughts; * and I distinguish three sorts of ideas;—*adventitious*, like the common idea of the sun; *framed* by the mind, such as that which astronomical reasoning gives of the sun; and *innate*, as the idea of God, mind, body, a triangle, and generally *all those which represent true immutable and eternal essences*."—(*Lettres de Descartes*, LIV. *Ed. Rev.*, Oct. 1821, p. 236; where other passages are given.) This last explanation is distinct; and it is all that the serious antagonists

* This was the first time that the word *idea* was used in its modern sense. For the history of this much-abused word see 'Edin. Rev.,' Oct. 1830, p. 182, in an article by Sir W. Hamilton, of which we know not whether most to admire the extraordinary erudition or the rare acuteness.

of Innate Ideas have ever combated. If Descartes, when pressed by objections, gave different explanations, we must only set it down to the want of a steady conception of the vital importance of Innate Ideas to his system. The fact remains that Innate Ideas form the necessary groundwork of the Cartesian doctrine.

Although the theory of Innate Ideas may, in its Cartesian form, be said to be exploded, it does really continue to be upheld under a new form. A conviction of the paramount necessity of some such groundwork for metaphysical speculation has led to the modern theory of *Necessary Truths*. This plausible theory has been adopted by Dr. Whewell in his 'Philosophy of the Inductive Sciences;' but his arguments have been completely shattered by John Mill on the one hand, and by Sir John Herschel on the other.* We may for the present assume the point to be settled.

The radical error of all ontological speculations lies in assumption that we have *ideas independent of experience*; because experience can only tell us of ourselves or of phenomena; of noumena it can tell us nothing. That we have no such ideas has been clearly enough established in the best schools of psychology; but the existenee of metaphysical speculation proves that the contrary opinion still exists.

The fundamental question then of modern Philosophy is this, Have we any Ideas independent

* 'System of Logic,' book ii. ch. 5; and 'Quarterly Rev.,' June, 1841; indeed, they had been anticipated and refuted by Locke long before; but Dr. Whewell has apparently too great a contempt for Locke to be convinced by any argument of his. See 'Essay,' book iv. ch. 6-7.

of experience? And the attempts to solve it will occupy the greater portion of our history. Before entering upon this subject we must exhibit the Method of Descartes, pushed to its ultimate conclusions in Spinoza.*

* The best modern works on Descartes, apart from regular Histories of Philosophy, are M. Francisque Boullier's '*Histoire et Critique de la Révolution Cartésienne.*' Paris, 1842; and M. Ch. Renouvier's '*Manuel de la Philos. Moderne.*' Paris, 1841. The best edition of Descartes' works is that by Victor Cousin, in eleven vols., 8vo. Paris, 1826. M. Jules Simon has also published a cheap and convenient edition in one volume of the '*Discourse on Method,*' the '*Meditations* and the '*Treatise on the Passions.*' Paris, 1844.

CHAPTER V.*

SPINOZA'S LIFE.

EARLY in the seventeenth century, on a fair evening of summer, a little Jewish boy was playing with his sisters on the Burgwal of Amsterdam, close to the Portuguese synagogue. His face was mild and ingenuous; his eyes were small, but bright, quick, and penetrative; and the dark hair floated in luxuriant curls over his neck and shoulders. Noticeable, perhaps, for nothing but his beauty and joyousness, the little boy played on unmarked amongst the active citizens of that active town. The Dutch then occupied the thoughtful attention of all Europe. After having first conquered for themselves firm footing on this earth, by rescuing their country from the sea, they had thrown off the oppressive yoke of the mighty Spain; and had now conquered for themselves a freedom from that far greater tyranny, the tyranny of thought.

Amsterdam was noisy with the creaking of cordage, the bawling of sailors, and the busy trafficking of traders. The Zuyder Zee was crowded with vessels, laden with precious stores from all quarters of the globe. The canals which ramify that city, like a great arterial system, were blocked up with

* In this account of Spinoza is incorporated the greater part of an article by the present writer which appeared in the 'Westminster Review,' No. lxxvii.

boats and barges: the whole scene was vivid with the greatness and the littleness of commerce. Heedless of all this turmoil, as unheeded in it—heedless of all those higher mysteries of existence the solution of which was hereafter to be the endeavour of his life—untouched by any of those strange questionings which a restless spirit cannot answer, but which it refuses to have answered by others—heedless of everything but his game, that little boy played merrily with his sisters. That boy was Benedict Spinoza.

It is pleasant to think of Spinoza as a boy, playing at boyish games. He has for so long been the bugbear of theologians, and of timid thinkers; he has for so long been looked upon as a monster, an atheist, and (to add to the horror) a Jewish atheist; and looked upon, even by those who were not so aghast at the consequences of his system, as nothing more than a frigid logician, that we dwell with singular pleasure on any more *human* aspect of his character. We hope, ere we have done, to convince the reader that this rigorous logician was a wise and virtuous and affectionate man.

His parents were honest merchants of Amsterdam, who had settled there in company with a number of their brethren, on escaping the persecution to which all Jews were subject in Spain. The young Baruch * was at first destined to commerce, but his passion for study, and the precocity of his intellect, made his parents alter their resolution in favour of a rabbinical education: a resolution

* Baruch was Spinoza's Hebrew name, which he himself translated into Latin as Benedictus; from which some have erroneously supposed that he embraced Christianity, whereas he only renounced Judaism.

warranted by his sickly constitution, which had increased his love of study. The sickly child is mostly thoughtful: he is thrown upon himself, and his own resources; he suffers, and asks himself the cause of his pains, and asks himself whether the world suffers like him; whether he is one with nature, and subject to the same laws, or whether he is apart from it, and regulated by distinct laws. From these he rises to the awful questions — Why? Whence? and Whither?

The education of the Jews was almost exclusively religious, the Old Testament and the Talmud forming their principal studies. Spinoza entered into them with a fanatical zeal, which, backed as it was by remarkable penetration and subtlety, won the admiration of the Chief Rabbini Saul Levi Morteira, who became his guide and instructor. Great, indeed, were the hopes entertained of this youth, who at fourteen rivalled almost all the doctors in the exactitude and extent of his biblical knowledge. But these hopes were turned to fears, when they saw that young and pertinacious spirit pursue its undaunted inquiries into whatever region they conducted him, and found him putting difficulties to them which they, rabbins and philosophers, were unable to solve.

Spinoza was to be deterred neither by threats nor by sophistications. He found in the Old Testament no mention of the doctrine of immortality: there was complete silence on the point.* He

* On this silence Warburton endeavoured to establish the divinity of the Legation of Moses; and Bishop Sherlock has exerted considerable ingenuity in explaining the discrepancy which sceptics had seized hold of as an argument in their favour.

made no secret of his opinions; and two of his schoolfellows, irritated at his intellectual superiority, or else anxious to curry favour with the rabbins, reported his heresy with the usual fertility of exaggeration. Summoned to appear before the synagogue, he obeyed with a gay carelessness, conscious of his innocence. His judges, finding him obstinate in his opinions, threatened him with excommunication: he answered with a sneer. Morteira, informed of the danger, hastened to confront his rebellious pupil, but Spinoza remained as untouched by his rhetoric as he was unconvinced by his arguments. Enraged at this failure, Morteira took a higher tone, and threatened him with excommunication, unless he at once retracted. His pupil was irritated, and replied in sarcasms. The rabbin then impetuously broke up the assembly, and vowed "only to return with the thunderbolt in his hand."

In anticipation of the threatened excommunication, he wisely withdrew himself from the synagogue—a step that profoundly mortified his enemies, as he thereby rendered futile all intimidations which had been employed against him, particularly the otherwise terrible excommunication; for what terror could such a sentence inspire in one who voluntarily absented himself from the society which pretended to exclude him? Dugald Stewart makes a most unwarrantable insinuation with respect to this secession from the synagogue. He says Spinoza withdrew himself "with a view, probably, to gain a more favourable reception for his doctrines." (*Dissert.* prefixed to the *Ency. Brit.*, p. 144.) At that time Spinoza had no doctrines of his own.

Dreading his ability, and the force of his ex-

ample, the synagogue made him an offer of an annual pension of a thousand florins, if he would only consent to be silent, and assist from time to time at their ceremonies. Spinoza, indignant at such an attempt to palter with his conscience, refused it with scorn. As neither threats nor temptations could turn him from his path, fanaticism conceived another plan. One evening, as Spinoza was coming out of the theatre, where he had been relaxing his o'er-tasked mind, he was startled by the fierce expression of a dark face, thrust eagerly before his. The glare of blood-thirsty fanaticism arrested him; a knife gleamed in the air, and he had barely time to parry the blow. It fell upon his chest, but, fortunately deadened in its force, only tore his coat. The assassin escaped. Spinoza walked home thoughtful.*

The day of excommunication at length arrived; and a vast concourse of Jews assembled to witness the awful ceremony. It began by the solemn and silent lighting of a quantity of black wax candles, and by opening the tabernacle wherein were deposited the Books of Law of Moses. Thus were the dim imaginations of the faithful prepared for all the horror of the scene. Morteira, the ancient friend and master, now the fiercest enemy of the condemned, was to order the execution. He stood there, pained, but implacable; the people fixed their eager eyes upon him. High above, the chanter rose and chanted forth, in loud lugubrious tones,

* Some of the biographers contradict Bayle's statement of the assassination being attempted as Spinoza was leaving the theatre, and declare that he was coming from the synagogue; but they forget that he had entirely renounced going there, and this was the probable motive of the assassin.

the words of execration ; while from the opposite side another mingled with these curses the thrilling sounds of the trumpet ; and now the black candles were reversed, and were made to melt drop by drop into a huge tub filled with blood ! This spectacle—a symbol of the most terrible faith—made the whole assembly shudder ; and when the final *Anathema Maranatha* ! were uttered, and the lights all suddenly immersed in the blood, a cry of religious horror and execration burst from all ; and in that solemn darkness, and to those solemn curses, they shouted Amen, Amen !

And thus was the young truth-seeker expelled from his community, and his friends and relations forbidden to hold intercourse with him. Like the young and energetic Shelley, who afterwards imitated him, he found himself an outcast in this busy world, with no other guides through its perplexing labyrinths than sincerity and self-dependence. Two or three new friends soon presented themselves ; men who warred against their religion as he had warred against his own ; and a bond of sympathy was forged out of a common injustice. Here again we trace a resemblance to Shelley, who, discountenanced by his relations, sought amongst a few sceptical friends to supply the affections he was thus deprived of. Like Spinoza, he too had only sisters, with whom he had been brought up. No doubt, in both cases, the consciousness of sincerity, and the pride of martyrdom, were great sustainments in this combat with society. They are always so ; and it is well that they are so, or the battle would never be fought ; but they never entirely replace the affections. Shut from our family, we may seek a brotherhood of apostacy ; but these

new and precarious intellectual sympathies are no compensation for the loss of the emotive sympathies, with all their links of association, and all their memories of childhood.

Spinoza must have felt this ; and as Shelley, in a rash marriage, endeavoured to fill the void of his yearning heart, so Spinoza, urged we must think by the same feeling, sought the daughter of his friend and master, Vanden Ende, as his wife.

This Vanden Ende had some influence on Spinoza's life. He was a physician in Amsterdam, who conducted a philological seminary with such success, that all the wealthy citizens sent him their sons ; but it was afterwards discovered, that to every dose of Latin he added a grain of atheism. He undertook to instruct Spinoza in Latin, and to give him board and lodging on condition that he should subsequently aid him in instructing his scholars. This Spinoza accepted with joy, for although master of the Hebrew, German, Spanish, Portuguese (and of course Dutch) languages, he had long felt the urgent necessity of Latin.

Vanden Ende had a daughter ; her personal charms were equivocal, but she was thoroughly versed in Latin, and was an accomplished musician. The task of teaching young Benedict generally fell to her : and as a consequence the pupil soon became in love with the master. We often picture this courtship to ourselves, as a sort of odd reverse of Abelard and Heloise. Spinoza, we fancy, not inattentive to the instruction, but the more in love with it coming from so soft a mouth : not inattentive, yet not wholly absorbed. He watches her hand as it moves along the page, and longs to squeeze it. While "looking out" in the diction-

ary their hands touch—and he is thrilled; but the word is *found*, nevertheless. The lesson ended, he ventures on a timid compliment, which she receives with a kind smile; but the smile is lost, for the bashful philosopher has his eyes on the ground; when he raises them, it is to see her trip away to household duties, or to another pupil: and he looks after her sighing. But, alas for maidenly discernment! our female Abelard was more captivated by the showy attractions of a certain Kerkering, a young Hamburg merchant, who had also taken lessons in Latin and love from the fair teacher; and who, having backed his pretensions by the more potent seductions of pearl necklaces, rings, &c., quite cast poor Benedict into the shade. He then turned from love to philosophy.

His progress in Latin had, however, been considerable; he read it with facility, and found it invaluable in his philosophical studies; and especially as the works of Descartes now fell into his hands, which he studied with intense avidity, feeling that a new world was therein revealed. The laws of the ancient Jewish doctors expressly enjoin the necessity of learning some mechanical art, as well as the study of the law. It was not enough, they said, to be a scholar—the means of subsistence must also be learned. Spinoza had accordingly, while belonging to the synagogue, learnt the art of polishing glasses for telescopes, microscopes, &c., in which he arrived at such proficiency that the great Leibnitz, writing to him, mentioned, “Among the honourable things which fame has acquainted me with respecting you, I learn with no small interest that you are a clever optician.” By polishing glasses he gained a subsistence—humble, it

is true, but equal to his wants. To this he joined, by way of relaxation, the study of design, and soon became very expert. Colérus had a portfolio of portraits of several distinguished men, sketched by him; and one among them was a portrait of himself, in the dress of Masaniello.*

In his eight-and-twentieth year Spinoza left his natal city of Amsterdam, and resolving to devote his life to study, retired to Rhynsburg, near Leyden, where, still pursuing his trade as a glass polisher, he devoted every spare hour to philosophy. The fruits of his solitude were the 'Abridgment of the Meditations of Des Cartes,' with an appendix, in which he first disclosed the principal points of his own system. This is a very interesting work. It contains the most accurate and comprehensible account of Descartes we have ever met with; and the appendix is curious, as containing the germs of the 'Ethica.' It made a profound sensation; and when, the following year, he removed to Woorburg, a small village near the Hague, his reputation attracted him a great concourse of visitors. Many enmities were excited amongst the disciples of Descartes, by the exposition of the weak points of their master's system; and Spinoza had to suffer their rude attacks in consequence;—but the attention of all thinking men was fixed upon him, and the clearness and precision of his work won him their admiration. So many new friendships did he form, that he at

* "Your enemies have not failed to assert that by that you pretended to show that you would create in a little while the same uproar in Christianity that Masaniello created in Naples."—*Rencontre de Bayle avec Spinoza dans l'autre Monde*. 1711.

last yielded to the numerous solicitations that he should come and live entirely at the Hague. It was not the learned alone who sought his friendship—men of rank in public affairs were also numbered amongst them. Of the latter we may mention the celebrated Jan de Witt, who loved Spinoza, and profited by his advice in many an emergency. The great Condé also, during the invasion of Holland by the French, sent to desire Spinoza to come and see him. The philosopher obeyed, but the prince was prevented keeping his appointment—to his loss. This journey was very near proving fatal to Spinoza. The populace having learned that he had been in communication with the enemy, began to suspect him of being a spy. His landlord, alarmed at these reports, warned him of them; he feared, he said, that the populace would attack the house. "Fear nothing," replied Spinoza, calmly. "It is easy for me to justify myself, and there are persons enough who know the object of my journey; but whatever may arrive, as soon as the people assemble before your door, I will go out and meet them, even though I should share the fate of De Witt." The same calm courage which made him proclaim the truth, now made him ready to confront the infuriated populace. Fortunately all passed off in peace, and he was left to his studies. Karl Ludwig, anxious to secure so illustrious a thinker, offered him the vacant chair of philosophy at Heidelberg, which, however, Spinoza could not accept, conscious that the philosophy he would teach was too closely allied to theology, not to trench on its dogmas; and the Elector had expressly stipulated that he should teach nothing which could prejudice the established religion. He therefore begged to

decline it, as his public duties would interfere with his private meditations. Yet it was both a lucrative and honourable post he refused; but a philosophical contempt for worldly honours was amongst his characteristics.

It is invigorating to contemplate Spinoza's life. Dependent on his own manual exertions for his daily bread, limited in his wants, and declining all pecuniary assistance so liberally offered by his friends, he was always at ease, cheerful, and occupied. There is an heroic firmness traceable in every act of his life, worthy of our meditation; there is a perpetual sense of man's independence, worthy all imitation. He refuses to accept the belief of another man—he will believe for himself; he sees mysteries around him—awful, inexplicable—but he will accept of no man's explanation. God has given him a soul, and with that he will solve the problem; or remain without a solution. Thus he leaves the synagogue; thus also he leaves Descartes; thus he thinks for himself. So in a far subordinate sphere he will assert his independence. Having but the most miserable pittance, and with the purses of his friends open to him, he preferred limiting his desires to accepting their bounties. He preferred working, and gaining his own subsistence, so long as it was to be gained. This was no crotchet of his; neither was it ignoble calculation. The friends were sincere, their offers were sincere; he knew it, but thanked them, and declined. The heritage, which on his father's death fell to his lot, he resigned to his sisters. The large property which his friend Simon de Vries had announced his intention of leaving him, he would not consent to accept; but made Simon alter his

will in favour of his brother De Vries, at Schiedam. The pension offered him if he would dedicate his next work to Louis XIV., he refused, "having no intention of dedicating anything to that monarch." He was indebted to no one but to God: who had given him talents, and energy to make those talents available, not to let them and him rot in idleness, or in ignoble dependence, while all the world had to toil! *

Yet it was a hard, griping poverty that he endured. On looking over his papers after his death, they found accounts of his expenditure. One day he ate nothing but a *soupe au lait*, with a little butter, which cost about three halfpence, and a pot of beer, which cost three farthings more. Another day he lived on a basin of gruel, with some butter and raisins, which cost him twopence halfpenny; and, says the pastor Colérus, "Although often invited to dinner, he preferred the scanty meal that he found at home, to dining sumptuously at the expense of another." This was the man who was, by his contemporaries, branded with the names of Atheist and Epicurean; and who has borne these names for ever after through all Europe, excepting only Germany. While on the one hand no man was perhaps ever more filled with religion (so that Novalis could call him a God-intoxicated man), on the other hand his Epicureanism, at twopence

* It was in a man's own energy that he saw the germ of worth and greatness, and wisely ridiculed the notion of patronage in this noteworthy passage: "Governments should never found academies, for they serve more to oppress than to encourage genius. The unique method of making the arts and sciences flourish, is to allow every individual to teach what he thinks, at his own risk and peril."—*Tract. Polit.*, c. 8, § 49.

halfpenny sterling per diem, stands a legible charge against him.

The publication of his 'Tractatus Theologico-Politicus' was an event of some importance, both in the history of philosophy and of Spinoza. The state of men's minds at that period was not favourable to the reception of any great philosophical system; and Spinoza found himself obliged to prepare the way for his future doctrines, by examining the nature of that ecclesiastical power which could excite at will such violent perturbation in the state; and by examining also the foundations on which that power reposed. This great question still agitates mankind; and it is as curious as instructive to observe that the late orthodox and estimable Dr. Arnold taught a doctrine precisely similar to that taught by the reviled and persecuted Spinoza.*

Times were troubled. Holland was reposing on her laurels, won in the long and desperate struggle against Spain. Having freed herself from a foreign yoke, she had, one would fancy, little now to do but to complete her canals, extend her commerce, and enjoy her peace. But, oh, the glorious contradictions in human history! This land of political freedom—this ark of refuge for the persecuted of all nations—the republic whose banner was freedom, and in whose cities European freethinkers published their works—was itself disturbed by theological faction. The persecuted Jews might flock from Spain and Portugal—the synagogue might rear itself beside the church—the Protestants of France and Belgium were welcomed as brothers and citizens; but arrived there,

* Compare Arnold: 'Introductory Lectures on Modern History.' Appendix to the first Lecture.

the fugitives might witness, even there, the implacable war of party. Toleration was afforded to political freethinking, and to the diversities of religion; but, within the pale of the state-religion, malice and all uncharitableness were daily witnessed. There the Gomarists and Arminians disputed concerning the infallibility of their doctrines, and cloaked their political ambition under evangelical protestations.*

This was the state of things on the appearance of the 'Tractatus.' Spinoza, seeing the deplorable dissensions of the theologians, endeavoured to make evident the necessity of a state religion, which, without absolutely imposing or interfering with private creeds, should regulate all outward observances. Because as it is the office of the state to watch over all that concerns the common welfare, so should it watch over the church, and direct it according to the general wish. But two things perfectly distinct must not here be confounded, viz. liberty of observance and liberty of thought. The latter is independent of all civil power; but the former must be subject to it, for the sake of the public tranquillity.

Although this portion of the 'Tractatus' could not have met with general approbation, yet it would scarcely have raised violent dissensions, had Spinoza confined himself to such speculation; but, anticipating the rationalism of modern Germans, he undertook a criticism of the Bible, and attacked the institution of priesthood as injurious to the general welfare. It may be curious here to quote Spinoza's anticipation of the Hegelian Christology,

* Saintes. 'Hist. de la Vie de Spinoza.'—P. 63.

which, in the hands of Strauss, Feuerbach, and Bruno Baur, has made so much noise in the theological world:—"I tell you," says Spinoza, in his letter to Oldenburg, "that it is not necessary for your salvation that you should believe in Christ according to the flesh; but of that eternal Son of God, *i. e.* the *eternal wisdom of God*, which is manifested in all things, but mostly in the *human mind, and most of all in Jesus Christ*; a very different conception must be formed."—"Dico ad salutem non esse omninò necesse, Christum secundum carnem noscere, sed de æterno illo filio Dei, hoc est, Dei æternâ sapientiâ, quæ sese in omnibus rebus, et maximè in mente humanâ et omnium maximè in Christo Jesu manifestavit, longè aliter sentiendum."* The consequences were as might have been expected: the book was at once condemned, and forbidden to be received in almost every country. This, as usual, only gave a greater stimulus to curiosity, and the sensation the work produced may be judged of by the quantity of "refutations" which appeared. Many were the artifices used to introduce it into the various countries. An edition was published at Leyden, under this title, 'Dan. Hensii Operum Historicorum, collectio prima. Edit. II., priori editione multo emendatior et auctior; accedunt quædam hætenus inedita.' This was reprinted at Amsterdam as 'Henriquez de Villacorta. M. Dr a cubiculo Philippi IV., Caroli II., archiatri Opera chirurgica omnia, sub auspiciis potentissimi Hispaniarum regis.' This absurd title was adopted to pass it into Spain. Another edition in French, called

* 'Opera Posthuma,' p. 450.

'*La Clef du Sanctuaire*,' was published at Leyden in 1678, and in Amsterdam as '*Traité des Cérémonies des Juifs*,' and again as '*Réflexions curieuses d'un esprit désintéressé*.'

Spinoza's devotion to study, with its concurrent abstemiousness and want of exercise, soon undermined his constitution; but he never complained. He suffered that, as he had suffered everything else—in silence. Once only a hint escapes him. "If my life be continued," he writes to a friend respecting a promise to explain certain matters. No plaint—no regret—merely a condition put upon a promise. He was a calm, brave man; he could confront disease and death, as he had confronted poverty and persecution. Bravery of the highest kind distinguished him through life, and was not likely to fail him on the quitting it; and yet beneath that calm, cold stoicism, there was a childlike gaiety springing from a warm and sympathising heart. His character was made up of generous simplicity and heroic forbearance. He could spare somewhat from even his scanty pittance to relieve the wretched. He taught the learned world the doctrines he had elaborated with endless toil; but he taught children to be regular in their attendance on divine service. He would question his host and hostess, on their return from church, respecting the sermon they had heard, and the benefit they had derived. He had no unwise proselytism which would destroy convictions in minds unfitted to receive others. One day his hostess asked him if he believed that she could be saved by her religion. He answered, "Your religion is a good one—you ought not to seek another, nor doubt that yours will procure your salvation, pro-

vided you add to your piety the tranquil virtues of domestic life." Words full of wisdom, springing from an affectionate and experienced mind.

So lived the Jew, Spinoza. So he developed his own nature, and assisted the development in others. Given up to philosophy, he found in it "its own exceeding great reward." His only relaxations were his pipe, receiving visitors, chatting to the people of his house, and watching spiders fight. This last amusement would make the tears roll down his cheeks with laughter.

The commencement of the year 1677 found him near his end. The phthisis, which he had suffered from for twenty years, now alarmingly increased. On Sunday, the 22nd February, he insisted on his kind host and hostess leaving him, and attending divine service, as he would not permit his illness to obstruct their devotions. They obeyed. On their return he talked with them about the sermon, and ate some broth with a good appetite. After dinner his friends returned to church, leaving the physician with him. When they came home they learnt, with sorrow and surprise, that he had expired about three o'clock, in the presence of the physician, who seized what money there was on the table, together with a silver-handled knife, and left the body without further care. So died, in his forty-fifth year, in the full vigour and maturity of his intellect, Benedict Spinoza. "Offer up with me a lock of hair to the manes of the holy but repudiated Spinoza!" exclaims the pious Schleiermacher. "The great spirit of the world penetrated him; the Infinite was his beginning and his end; the universe his only and eternal love. He was filled with religion

and religious feeling; and therefore it is that he stands alone, unapproachable; the master in his art, but elevated above the profane world, without adherents, and without even citizenship." *

* Schleiermacher: 'Rede über die Religion,' p. 47.

CHAPTER VI.

SPINOZA'S DOCTRINE.

THE system of Spinoza, which has excited so much odium, is but the logical development of the system of Descartes which has excited so much admiration. Curious! The demonstration of the existence of God was one of Descartes' proudest laurels; the demonstration of the existence of God—and of no other existence but that of God, being possible—was Spinoza's title to almost universal execration.

Dugald Stewart, generally one of the most candid of men, evidently shared the common prejudice with respect to Spinoza. He refuses, therefore, to admit that Spinoza, whom he dislikes, held opinions at all similar to those of Descartes, whom he admires. "It was in little else," says he, "than his *physical principles* that he agreed with Descartes; for no two philosophers ever differed more widely in their metaphysical and theological tenets. Fontenelle characterizes his system as Cartesianism pushed to extravagance." This is far from correct. Spinoza differed with Descartes on a few points, and agreed with him on most; the differences were only those of a more rigorous logical development of the principles both maintained.

It was at an important era in Spinoza's life that the writings of Descartes fell in his way. He was

then striving to solve for himself the inexplicable riddle of the universe. He had penetrated deep into the science of the Cabbala; he had studied with the learned Morteira; but though wise in all the wisdom of the Jews, he was still at an immeasurable distance from the desired solution. Descartes captivated him by the boldness of his logic, by the independent nature of his Method, whereby truth was sought in the inner world of man, and not in the outward world, nor in the records of authority. He studied Descartes with avidity; but he soon found that there also the riddle remained unsolved. He found the fact of his own existence somewhat superfluously established; but the far greater existence in which his own was included—of which the great All was but a varied manifestation—of this he found no demonstration. *Cogito, ergo sum*, is irresistible. *Cogito, ergo Deus est*, is no syllogism.

Spinoza, therefore, leaving Descartes, asked himself—What is the *noumenon* which lies beneath all *phenomena*? We see everywhere transformations perishable and perishing; yet there must be something beneath which is imperishable, immutable; what is it? We see a wondrous universe peopled with wondrous beings, yet none of these beings exist *per se*, but *per aliud*: they are not the authors of their own existence; they do not rest upon their own reality, but on a greater reality—on that of the τὸ ἔν καὶ τὸ πᾶν. What is this reality?

This question, Spinoza thought, could not be answered by the idea of Perfection. No: the great reality of all existence is Substance. Not substance in the gross and popular sense of “body” or “matter,” but that which is *substans*—which

is standing under all phenomena, supporting and giving them reality. What is a phenomenon?—an appearance, a thing perceived: a state of the perceiving mind. But what originates this perception—what changes the mind from its prior to its present state? *Something*, external and extrinsic, changes it. What is this something? What it *is*, in itself, we can never know: because to know it would bring it under the forms and conditions of the mind, *i. e.* would constitute it a phenomenon—unknown, therefore, but not denied—this *ens*—this something, *is*; and this Kant calls *noumenon*. This Spinoza calls Substance.

All science, as all existence, must start from *one* principle, which must be the ground of all. What is this commencement—this *αρχή*? Perfection, replies Descartes. No, says Spinoza, Perfection is an attribute of something prior to it. Substance is the *αρχή*. Descartes, in common with most philosophers, had assumed a duality: he had assumed a God and a real world created by God. Substance, to him, was by no means the primal fact of all existence; on the contrary, he maintained that both Extension and Thought were Substances; in other words, that mind and matter were distinct independent Substances, different in essence, and united only by God. Spinoza affirmed that both Extension and Thought were no more than Attributes; and by a subtle synthesis he reduced the duality of Descartes to his own all-embracing unity, and thus arrived at a conception of the One.

The absolute Existence—the Substance—(call it what you will) is God. From Him all individual concrete existences arise. All that exists, exists

in and by God; and can only thus be conceived. Here, then, thought he, the mystery of the world begins to unfold itself to the patient thinker; he recognises God as the fountain of life; he sees in the universe nothing but the manifestation of God; the finite rests upon the bosom of the infinite; the inconceivable variety resolves itself into unity. There is but one reality, and that is God.

Such was Spinoza's solution of the problem: upon this he felt he could repose in peace, and upon this only. To live with God—to know God with perfect knowledge, was the highest point of human development and happiness; and to this he consecrated his life. Taking the words of St. Paul, "In Him we live, move, and have our being," as his motto, he undertook to trace the relations of the world to God and to man, and those of man to society. His 'Tractatus' and 'Ethica,' were the great results of that endeavour.

Spinoza agreed with Descartes in these three vital positions. I. The basis of all certitude is Consciousness. II. Whatever is clearly perceived in Consciousness must therefore be necessarily true; and distinct ideas are true ideas, true expressions of objective existences. III. Consequently metaphysical problems are susceptible of mathematical demonstration. The only novelty in Spinoza's Method is, that it is the Method of Descartes carried out. Descartes thought that the mathematical method was capable of being applied to metaphysics, but he did not apply it; Spinoza did.

This may seem a trifling addition; in reality it was the source of all the differences between Spi-

noza and his teacher. Descartes' principles inevitably lead to Spinoza's system, if those principles are rigorously carried out. But Descartes never attempted the rigorous deduction of consequences, which Spinoza, using the mathematical method, calmly and inflexibly deduces. Those who rebel at the conclusions drawn must impugn the premisses from which they are drawn; for the system of Spinoza is nothing more nor less than a demonstration.

To this demonstration we are about to lead our readers, and only beg of them a little steady attention and a little patient thought, convinced that they will then have little difficulty in finding their way in this abstrusest of all subjects. We shall translate some portion of the 'Ethica' with the utmost care, because we think it every way advisable that the reader should have Spinoza's own mode of statement, and thereby be enabled to watch his manner of deducing his conclusions from his premisses. The work opens with eight

DEFINITIONS.

- I. By Cause of itself I understand that, the essence of which involves existence; or that, the nature of which can only be considered as existent.*
- II. A thing finite is that which can be limited (*terminari potest*) by another thing of the same nature, *e. g.*, body is said to be finite because it can always be conceived as larger. So

* This is an important definition, as it gets rid of the verbal perplexity hitherto felt relative to an "endless chain of causes." The doubter might always ask the cause of the first cause in the series; but here, by identifying cause and existence, Spinoza very properly annihilates the sophism.

thought is limited by other thoughts. But body does not limit thought, nor thought limit body.

III. By Substance I understand that which is in itself, and is conceived *per se*: that is, the conception of which does not require the conception of anything else as antecedent to it.

IV. By Attribute I understand that which the mind perceives as constituting the very essence of Substance.

V. By Modes I understand the accidents (*affectiones*) of Substance; or that which is in something else, through which also it is conceived.

VI. By God I understand the Being absolutely infinite; *i. e.*, the Substance consisting of infinite Attributes, each of which expresses an infinite and eternal essence.

Explication. I say absolutely infinite, but not *in suo genere*; for to whatever is infinite but not in *suo genere*, we can deny infinite Attributes; but that which is absolutely infinite, to its essence pertains everything which implies essence, and involves no negation.

VII. That thing is said to be free which exists by the sole necessity of its nature, and by itself alone is determined to action. But that is necessary, or rather constrained, which owes its existence to another, and acts according to certain and determinate causes.

VIII. By Eternity I understand Existence itself, in as far as it is conceived necessarily to follow from the sole definition of an eternal thing.

These are the definitions: they need not long be

dwelt on, but must frequently be recurred to hereafter; above all, no objection ought to be raised against them, as unusual or untrue, for they are the meanings of various terms in constant use with Spinoza, and he has a right to use them as he pleases, provided he does not afterwards depart from this use, which he is careful not to do. We now come to the seven

AXIOMS.

- I. Everything which is, is in itself, or in some other thing.
- II. That which cannot be conceived through another—*per aliud*—must be conceived *per se*.
- III. From a given determinate cause the effect necessarily follows; and *vice versâ*, if no determinate cause be given no effect can follow.
- IV. The knowledge of an effect depends on the knowledge of the cause, and includes it.
- V. Things that have nothing in common with each other cannot be understood by means of each other, *i. e.*, the conception of one does not involve the conception of the other.
- VI. A true idea must agree with its original in nature (*idea vera debet cum suo ideato convenire*).
- VII. Whatever can be clearly conceived as non-existent, does not, in its essence, involve existence.

These axioms at once command assent, if we except the fourth, which, because it is ambiguous, has been thought absurd; but the truth is, that the opposite conceptions now prevalent respecting cause and effect prevent a real appreciation of this axiom. Mr. Hallam goes so far as to say, "It seems to be in this fourth axiom, and in the pro-

position grounded upon it, that the fundamental fallacy lurks. The relation between a cause and effect is surely something perfectly different from our perfect comprehension of it, or indeed from our having any knowledge of it at all; much less can the contrary assertion be deemed axiomatic." * There is a want of subtlety in this criticism, as well as a want of comprehension of Spinoza's doctrines; and we wonder it never suggested itself that the modern notions of cause and effect do not correspond with the Spinozistic system. In the above axiom it is not meant that there are no effects manifested to us of which we do not also know the causes—it is not meant that a man receiving a blow in the dark is not aware of that blow (effect), though ignorant of the immediate cause. What is meant is, that a complete and comprehensive knowledge of the effect is only to be obtained through a complete and comprehensive knowledge of the cause. If you would know the effect in its totality—in itself—you must know also the cause in its totality. This is obvious; for what is an effect? An effect is a cause realized; it is the *natura naturans* conceived as *natura naturata*. We call the antecedent, cause, and the sequent, effect, but these are merely relative conceptions; the sequence itself is antecedent to some subsequent change, and the former antecedent was once only a sequent to its cause; and so on. Causation is change; when the change is completed, we name the result effect. It is only a matter of naming. But inciting this change, causing it as we say, there is some power (cause) in nature; to know this effect, therefore,—that is, not merely to have

* Introd. to 'Lit. of Europe,' iv., p. 246.

a relative conception of our own condition consequent on it, but to comprehend this power, this reality, to penetrate its mystery, to see it in its totality,—you must know *what* the effect is, and *how* it is; you must know its point of departure, and its point of destination; in a word, you must transcend the knowledge of phenomena, and acquire that of *noumena*. In a popular sense we are said to know effects, but to be ignorant of causes. Truly, we are ignorant of both—and equally ignorant. A knowledge of sequences we have, and of nothing more. The vital power determining these sequences we name, but cannot know; we may call it attraction, heat, electricity, polarization, &c.; but, having named, we have not explained it.

This is what Spinoza implicitly teaches; and had Mr. Hallam attended only to what the very next axiom proclaims, *viz.*, that things having nothing in common with each other, cannot be understood by means of each other, *i. e.*, the conception of one not involving the conception of the other—he would have understood Spinoza's meaning: for, if effect be *different* from cause, then its conception does not involve the conception of cause; but if it be the *same* as cause, then does the one conception involve that of the other; *ergo*, the more complete the knowledge of the one, the more complete the knowledge of the other. The reader will bear this in mind when studying Spinoza.

We will now proceed to the

PROPOSITIONS.

PROP. I. Substance is prior in nature to its accidents.

Demonstration. Per Definitions 3 and 5.

PROP. II. Two Substances, having different Attributes, have nothing in common with each other.

Demonst. This follows from Def. 3; for each Substance must be conceived in itself and through itself; in other words, the conception of one does not involve the conception of the other.

PROP. III. Of things which have nothing in common, one cannot be the cause of the other.*

Demonst. If they have nothing in common, then (per Axiom 5) they cannot be conceived by means of each other; *ergo* (per Axiom 4), one cannot be the cause of the other.—Q. E. D.

PROP. IV. Two or more distinct things are distinguished among themselves either through the diversity of their Attributes, or through that of their Modes.

Demonst. Everything which is, is in itself or in some other thing (per Axiom 1), that is (per Def. 3 and 5), there is nothing out of ourselves (*extra intellectum*) but Substance and

* This fallacy has been one of the most influential corruptors of philosophical speculation. For many years it was undisputed; and most metaphysicians still adhere to it. See Mill's 'System of Logic,' vol. ii. pp. 376-386.

The assertion is that only *like* can act upon *like*. This was the assumption of Anaxagoras, and the groundwork of his system. If the assumption be correct, his system is true. But although it is true that *like* produces (causes) *like*, it is also as true that *like* produces *unlike*: thus fire produces *pain* when applied to our bodies, *explosion* when applied to gunpowder, *charcoal* when applied to wood; all these effects are unlike the cause. Spinoza's position is logically concluded from his premisses; those who have since upheld the fallacy have not that excuse.

its Modes. There is nothing out of ourselves whereby things can be distinguished amongst one another, except Substances, or (which is the same thing, per Def. 4 *) their Attributes and Modes.

PROP. V. It is impossible that there should be two or more Substances of the same nature, or of the same Attribute.

Demonst. If there are many different Substances they must be distinguished by the diversity of their Attributes or of their Modes (per Prop. 4). If only by the diversity of their Attributes, it is thereby conceded that there is nevertheless only one Substance of the same Attribute; but if by their diversity of Modes, then Substance being prior in order of time to its Modes, it must be considered independent of them; that is (per Def. 3 and 6), cannot be conceived as distinguished from another; that is (per Prop. 4), there cannot be many Substances, but only one Substance.
—Q. E. D.

PROP. VI. One Substance cannot be created by another Substance.

Demonst. There cannot be two Substances with the same Attributes (per Prop. 5); that is (per Prop. 2), that have anything in common with each other; and therefore (per Prop. 3) one cannot be the cause of the other.

Corollary. Hence it follows that Substance cannot be created by any thing else. For there is

* In the original, by a slip of the pen, Axiom 4 is referred to instead of Def. 4; and Auerbach has followed the error in his translation. We notice it because the reference to Axiom 4 is meaningless, and apt to puzzle the student.

nothing in nature except Substance and its Modes (per Axiom 1, and Def. 3 and 5); now this Substance not being produced by another is self-caused.

Corollary 2. This proposition is more easily to be demonstrated by the absurdity of its contradiction—for if Substance can be produced by anything else, the conception of it would depend on the conception of the cause (per Axiom 4*), and hence (per Def. 3) it would not be Substance.

PROP. VII. It pertains to the nature of Substance to exist.

Demonst. Substance cannot be produced by anything else (per Coroll. Prop. 6), and is therefore the cause of itself; i. e. (per Def. 1) its essence necessarily involves existence; or it pertains to the nature of Substance to exist.—Q. E. D.

PROP. VIII. All Substance is necessarily infinite.

Demonst. There exists but one Substance of the same Attribute; and it must either exist as infinite or finite. But not finite, for (per Def. 2) as finite it must be limited by another Substance of the same nature, and in that case there would be two Substances of the same Attribute, which (per Prop. 5) is absurd. Substance, therefore, is infinite.—Q. E. D.

Scholium I.—I do not doubt but that to all who judge confusedly of things, and are not wont to inquire into first causes, it will be difficult to admit the demonstration of Prop. 7, because they do not

* Here the potency and significance of Axiom 4 begins to unfold itself.

sufficiently distinguish between the modifications of Substances, and Substances themselves, and are ignorant of the manner in which things are produced. Hence it follows, that the commencement which they see natural things have, they attribute to Substances; for he who knows not the true causes of things, confounds all things, and feigns that trees talk like men; that men are formed from stones as well as from seeds, and that all forms can be changed into all other forms. So, also, those who confound the divine nature with the human, naturally attribute human affections to God, especially as they are ignorant of how these affections are produced in the mind. But if men attended to the nature of Substance, they would not in the least doubt Prop. 7; nay, this proposition would be an axiom to all, and would be numbered among common notions. For, by Substance they would understand that which exists in itself, and is conceived through itself; *i. e.*, the knowledge of which does not require the knowledge of anything antecedent to it.* But by modification they would understand that which is in another thing, the conception of which is formed by the conception of the thing in which it is, or to which it belongs: we can have, therefore, correct ideas of non-existent modifications, because, although out of the understanding they have no reality, yet their essence is so comprehended in that of another, that they can be conceived through this other. The truth of

* The reader will bear in mind the result of Descartes' philosophy, if he would fully seize Spinoza's meaning and the basis on which it reposes. Descartes, as we saw, could find nothing indubitable but existence. Existence was the primal fact of all science; self-evident and indisputable.

Substance (out of the understanding) lies nowhere but in itself, because it is conceived *per se*. If, therefore, any one says that he has a distinct and clear idea of Substance, and yet doubt whether such Substance exist, this would be as much as to say that he has a true idea, and nevertheless doubts whether it be not false (as a little attention sufficiently manifests); or, if any man affirms Substance to be created, he at the same time affirms that a true idea has become false; than which nothing can be more absurd. Hence it is necessarily confessed that the existence of Substance as well as its essence is an eternal truth. And hence we must conclude that there is only one Substance possessing the same Attribute, which requires here a fuller development. I note, therefore,

1. That the correct definition of a thing includes and expresses nothing but the nature of the thing defined. From which follows

2. That no definition includes or expresses a distinct number of individuals, because it expresses nothing but the nature of the thing defined; *e. g.*, the definition of a triangle expresses no more than the nature of a triangle, and not any fixed number of triangles.

3. There must necessarily be a distinct cause for the existence of every existing thing.

4. This cause, by reason of which anything exists, must be either contained in the nature and definition of the existing thing (*viz.* that it pertains to its nature to exist), or else must lie beyond it—must be something different from it.

From these positions it follows, that if a certain number of individuals exist, there must necessarily be a cause why that number, and not a larger or

smaller number: *e. g.*, if in the world twenty men exist (whom, for greater perspicuity, I suppose to exist at once, no more having previously existed), it will not be sufficient to show the reason why twenty men exist, to point to human nature as the cause, but it will further be necessary to show cause why only twenty men exist, because (per note 3) a cause must be given for the existence of everything. This cause, however (per notes 2 and 3), cannot be contained in human nature itself, because the true definition of man does not involve the number twenty. Hence (per note 4) the cause why twenty men exist and why each individual exists must lie beyond each of them; and therefore must we absolutely conclude that everything, the nature of which admits of many individuals, must necessarily have an external cause. As, therefore, it pertains to the nature of Substance to exist, so must its definition include a necessary existence, and consequently from its sole definition we must conclude its existence. But, as from its definition, as already shown in notes 2 and 3, it is not possible to conclude the existence of many Substances, *ergo*, it necessarily follows that only *one* Substance of the same nature can exist.

We must here break off in our translation: we have arrived at the very heart and pith of the system, and have gone far enough to present the method in all its rigour before the reader. An analysis of the principal positions subsequently treated will be all that is now necessary.

There is but one infinite Substance, and that is God. Whatever is, is in God; and without Him, nothing can be conceived. He is the universal

Being of which all things are the manifestations. He is the sole Substance; everything else is a Mode; yet, without Substance, Mode cannot exist. God, viewed under the attributes of Infinite Substance, is the *natura naturans*—viewed as a manifestation, as the Modes under which his attributes appear, he is the *natura naturata*. He is the cause of all things, and that immanently, but not transiently. He has two infinite attributes—Extension and Thought. Extension is visible Thought; and Thought is invisible Extension: they are the Objective and Subjective of which God is the Identity. Every *thing* is a mode of God's attribute of Extension; every *thought*, wish, or feeling, a mode of his attribute of Thought. That Extension and Thought are not Substances, as Descartes maintained, is obvious from this: that they are not conceived *per se*, but *per aliud*. *Something* is extended: what is? Not the Extension itself, but something prior to it, viz. Substance. Substance is uncreated, but creates by the internal necessity of its nature. There may be many existing things, but only one existence; many forms, but only one Substance. God is the "*idea immanens*"—the One and All.

Such is a brief outline of the fundamental doctrine of Spinoza; and now we ask the reader, can he reconcile the fact of this being a most religious philosophy, with the other fact of its having been almost universally branded with Atheism? Is this intelligible? Yes; three causes present themselves at once. I. The readiness with which that term of obloquy has been applied to opponents from time immemorial—to Socrates as to Gottlieb Fichte. II. The obscurity of party vision, and

the rashness of party judgment. III. The use of the ambiguous word Substance, whereby God was confounded with the material world.

This last point is the most important, and deserves attention. To say God is the infinite Substance, does look, at first sight, like the grossest Atheism of the D'Holbach school; but no one could ever have read twenty pages of Spinoza without perceiving that this was but a misunderstanding; for he expressly teaches that God is *not* corporeal, but that body is a Mode of Extension.* No: God is not the material universe, but the universe is one aspect of his infinite Attribute of Extension: he is the *identity* of the *natura naturans*, and the *natura naturata*.†

It is a mere verbal resemblance, therefore, this of Spinozism to Atheism; but the history of phi-

* Dugald Stewart somewhat naïvely remarks that "in no part of Spinoza's works has he avowed himself an Atheist" (he would have been very much astonished at the charge); "but it will not be disputed by those who comprehend the drift of his reasonings, that in point of practical tendency Atheism and Spinozism are one and the same." It may be so; yet nothing can warrant the accusation of Atheism, merely because Spinoza's doctrines may have the same practical tendency as that of Atheism. Spinoza did not deny the existence of God; he denied the existence of the world: he was consequently an *Acosmist*, not an Atheist. If the practical tendency of these two opposite systems really is the same, Spinoza could not help it.

† "*Natura naturans et natura naturata in identitate Deus est.*" It must be borne in mind that *identity* does not (as in common usage) mean *sameness*, but the root from which spring two opposite stems, and in which they have a common life. Man, for instance, is the identity of soul and body; water is the identity of oxygen and hydrogen. Great mistakes are constantly being made, owing to overlooking this distinction of vulgar and philosophical terms.

losophy shows too many instances of the errors of language erected into errors of fact, to astonish any reader. It was our place to point out the error, which we trust has been done; and the following passage from Schelling's 'Philosophische Schriften' accurately draws the distinction between Pantheism and Atheism:—

“God is that which exists in itself, and is comprehended from itself alone; the finite is that which is necessarily in another, and can only be comprehended from that other. Things therefore are not only in degree, or through their limitations different from God, but *toto genere*. Whatever their relation to God on other points, they are absolutely divided from him on this: that they exist in another, and he is self-existent or original. From this difference it is manifest that all individual finite things taken together cannot constitute God, since that which is in its nature *derived*, cannot be one with its original, any more than the single points of a circumference taken together can constitute the circumference, which, as a whole, is of necessity prior to them in idea.”

We here conclude our exposition of Spinoza's theology—one of the most extraordinary efforts of the speculative faculty which history has revealed to us. We have witnessed the mathematical rigour with which it is developed; we have followed him step by step, dragged onwards by his irresistible logic; and yet the final impression left on our minds is, that the system has a *logical* but not a *vital* truth. We shrink back from the consequences whither it so irresistibly leads us; we gaze over the abyss to the edge of which we have been dragged, and seeing nought but chaos and despair, we refuse

to build our temples there. We retrace our steps with hurried earnestness, to see if no false route has been taken; we examine every one of his positions, to see if there be not some secret error, parent of all other errors. Arrived at the starting-point, we are forced to confess that we have found no error—that each conclusion is but the development of antecedent positions, and yet the mind refuses to accept the conclusions.

This, then, is the state of the inquirer: he sees a vast chain of reasoning carried on with the strictest rigour. He has not been dazzled by rhetoric, nor confused by illustrations. There has been no artful appeal to his prejudices or passions; he has been treated as a reasoning being, and has no more been able to doubt the positions, after once understanding the definitions and axioms, than he is able to doubt the positions of Euclid. And yet we again say that the conclusions are repugned, refused; they are not the truth the inquirer has been seeking; they are no expressions of the thousand-fold life whose enigma he has been endeavouring to solve.

Unable, himself, to see where this discrepancy lies, he turns with impatience to the works of others, and seeks in criticisms and refutations an outlet from his difficulty. But—and it is a curious point in the history of philosophy—he finds that this bold and extraordinary thinker has never been refuted by any one meeting him on his own ground. Men have taken up separate propositions, and having wrenched them from their connexion with the whole system, have easily shown them to be quite at variance with the systems of the refuters.

This is easy work.* On the other hand, the inquirer finds that the great metaphysicians of Germany adopt Spinoza's fundamental positions, differing with him only on points of detail or of language. In their works the consequences do not look so appalling, because they are adorned with lofty names and splendid eloquence; but the difference is only verbal. Is there, then, no alternative? Must I accept Spinoza's system, repugnant as it is? Such is the inquirer's perplexity.

We will endeavour to lead him out of it—we will endeavour to point out the fundamental error of Spinozism. In doing so, we are aware that a charge of gross presumption would be merited by us, did not the very nature of philosophical inquiry imply an infinitely higher presumption. The human reason that can dare attempt to solve the problems of philosophy may well be pardoned any boldness in examining the errors of others.

It is our firm conviction that no believer in metaphysics, as a *possible* science, can escape the all-embracing dialectic of Spinoza. To him who believes that the human mind can know *noumena*, as well as *phenomena*—who accepts the verdict of the mind as not merely the *relative* truth, but also the *perfect, absolute* truth—we see nothing,

* This is the way Bayle answers Spinoza; yet his answer has been pronounced by Dugald Stewart "one of the most elaborate and acute refutations which has yet appeared." Mr. Stewart's dislike of the consequences he believed inseparable from Spinozism has here, we think, biassed his judgment. Bayle's attempt at a refutation is now pretty generally considered to be pitiable. Jacobi declares Spinozism to be unanswerable by those who simply reason on the problem: faith alone can solve it otherwise.

humanly speaking, but Spinozism as a philosophical refuge. For, observe, to believe in the *possibility* of knowing "things in themselves" (and not simply their appearances to us), which is the metaphysical assumption, you must also believe with Spinoza that every *clear idea* is the *actual* and *total image* of some thing as it exists in external nature. If you do not believe that your knowledge is *absolute*, and not simply *relative*, you have no sort of ground for the belief in the possibility of ontology. Spinoza says—and every ontologist who would be consequent must also say it—that the *subjective idea* is the complete and actual image of the *objective fact*; and this not merely relatively—*quâ* subject, but also *quâ* object.

Never was language more explicit than Spinoza's on this point; to him it not only forms the basis of all science, but he deems it necessary specially to enforce it as such, in various passages. In the scholium to Prop. viii. he lays it down as a fundamental rule, that the correct definition of a thing expresses the nature of that thing, and nothing but its nature. We cannot but admire the consistency of this: he grapples boldly with the very difficulty of the science he is endeavouring to establish. It is obvious that, to know things which are *beyond* appearances—which transcend the sphere of sense—we must know them as they *are*, and not as they are *under the conditions of sense*. Spinoza at once pronounces that we can so know them. He says: whatever I clearly know is true; true not merely in reference to my conception of it, but in reference to the thing known. In other words, the mind is a mirror reflecting things as they are. This

necessary assumption, which lies at the root of metaphysics, Descartes first distinctly brought to light as the basis of all inquiry. Whatever was clearly in Consciousness he accepted as the truth. It is on the truth of this assumption that Spinoza's system depends: we may add, that on it the whole fabric of philosophy depends.

Having thus signalled the fundamental position of Spinoza's doctrine, it is there, if anywhere, that we shall be able to show his fundamental error. On the truth or falsehood of this one assumption must Spinozism stand or fall; and we have formerly endeavoured to show that the assumption is false. Those who agree in the reasonings we adduced may escape Spinozism, but they escape it by denying the possibility of all philosophy.

This consideration that the mind is not a passive mirror reflecting the nature of things, but the partial creator of its own forms—that in perception there is nothing but certain changes in the percipient—this consideration, we say, is the destruction of the very basis of metaphysics, for it expressly teaches that the subjective idea is not the correlate of the objective fact; and only upon the belief that our ideas are the perfect and adequate images of external things can any metaphysical speculation rest. Misled by the nature of geometry, which draws its truths from the mind as the spider draws the web from its bosom, Descartes assumed that metaphysical truths could be attained in the same way. This was a confusion of reasoning, yet Spinoza, Leibnitz, and their successors, followed him unhesitatingly. Spinoza, however, had read Bacon's denouncement of this *a priori* method, though evidently unprepared to

see the truth of the protest. It is curious to read his criticism of Bacon: he looks on it as that writer's great error to have mistaken the knowledge of the first cause and origin of things. On the nature of mind, he says, Bacon speaks very confusedly; and while he proves nothing, judges much. For, in the first place, he supposes that the human intellect, besides the deceptions of the senses, is subject to the deceptions of its own nature, and that it conceives everything according to the analogies of its own nature, and not according to the analogies of the universe, so that it is like an unequal mirror to the rays of things which mixes the conditions of its own nature with those of external things.*

We look upon Spinoza's aberration as remarkable, however, because he had also seen that in some sense the subjective was not the absolute expression of the objective, as is proved by his celebrated argument for the destruction of final causes, wherein he showed that *order* was a thing of the imagination, as were also right and wrong, useful and hurtful—these being merely such in relation to *us*. Still more striking is his anticipation of Kant in this passage:—"Ex quibus clarè videre est, mensuram, tempus et numerum nihil esse præter cogitandi, seu potiùs imaginandi modos;" which should have led him to suspect that the same law of mental forms was also applicable to all other subjects.

* "Nam primò supponit, quod intellectus humanus præter fallaciam sensuum suâ solâ naturâ fallitur, omniaque fingit ex analogiâ suæ naturæ et non ex analogiâ universi, adeò ut sit instar speculi inæqualis ad radias rerum, qui suam naturam naturæ rerum immiscet."—*Epist. ii. Opera*, p. 398.

Thus, then, may the inquirer escape Spinozism by denying the possibility of metaphysical science; thus, and thus only. But in denying it he will not the less be grateful to the great thinker who elaborated it. He will revere him as one of the immortal intellects whose labours cleared the way for the present state of things; and he will affectionately trace the coincidences of Spinoza with those who went before and those who came after him. Pantheism is as old as philosophy. It was taught in the old Greek schools—by Plato, by St. Augustine,* and by the Jews.† Indeed, one may say that Pantheism, under one of its various shapes, is the necessary consequence of all metaphysical inquiry, when pushed to its logical limits; and from this reason do we find it in every age and nation. The dreamy contemplative Indian, the quick versatile Greek, the practical Roman, the quibbling Scholastic, the ardent Italian, the lively Frenchman, and the bold Englishman, have all pronounced it as the final truth of philosophy. Wherein consists Spinoza's originality?—what is his merit?—are natural questions, when we see him

* St. Augustine says: "*Substantialitèr Deus ubique diffusus est. Sed sic est Deus per cuncta diffusus, ut non sit qualitas mundi, sed substantia creatrix mundi, sine labore regens et sine onere continens mundum. Non tamen per spatia locorum, quasi mole diffusa, ita ut in dimidio mundi corpore sit dimidius, atque ita per totum totus; sed in solo cœlo totus, et in solâ terrâ totus, et in cœlo et in terrâ totus, et nulla contentus loco, sed in se ipso ubique totus*" (Quoted in Mrs. Austin on 'Goethe,' vol. iii., p. 272).

† The Cabbalists taught, however, a more vague and fanciful pantheism, founded on material analogies and metaphors. See Salvador: '*Jésus Christ et sa Doctrine*,' tome i. d. 122.

only lead to the same result as others had before proclaimed. His merit and originality consist in the systematic exposition and development of that doctrine—in his hands, for the first time, it assumes the aspect of a science. The Greek and Indian Pantheism is a vague fanciful doctrine, carrying with it no scientific conviction; it *may* be true—it looks true—but the proof is wanting. But with Spinoza there is no choice: if you understand his terms, admit the possibility of his science, and seize his meaning; you can no more doubt his conclusions than you can doubt Euclid; no mere opinion is possible, conviction only is possible.

Such was Benedict Spinoza—thus he lived and thought. A brave and simple man, earnestly meditating on the deepest subjects that can occupy the human race, he produced a system which will ever remain as one of the most astounding efforts of abstract speculation—a system that has been decried, for nearly two centuries, as the most iniquitous and blasphemous of human invention; and which has now, within the last sixty years, become the acknowledged parent of a whole nation's philosophy, ranking among its admirers some of the most pious and illustrious intellects of the age. The ribald Atheist turns out, on nearer acquaintance, to be a "God-intoxicated man." The blasphemous Jew becomes a pious, virtuous, and creative thinker. The dissolute heretic becomes a child-like, simple, self-denying and heroic man. We look into his works with calm earnestness, and read there another curious page of human history: the majestic struggle with the mysteries of existence has failed, as it always must fail; but the struggle demands our warmest admiration, and the

man our ardent sympathy. Spinoza stands out from the dim past like a tall beacon, whose shadow is thrown athwart the sea, and whose light will serve to warn the wanderers from the shoals and rocks on which hundreds of their brethren have perished.*

* Spinoza's works have been very ably edited by Prof. Paulus. The edition we use is the quarto which appeared shortly after his death: 'B. D. S. Opera Posthuma.' 1677. An excellent German translation in five small volumes, by Berthold Auerbach, was published in 1841. M. Emile Saisset has also recently published one in French, with an introduction, which, from the character of the translator, is, doubtless, to be relied on. We are aware of scarcely anything in English, critical or explanatory, except the account given in Mr. Hallam's 'Introduction to the Literature of Europe,' and the articles 'Spinoza' and 'Spinozism' in the 'Penny Cyclopædia' (by the present writer): the latter contains a few passages not incorporated in this history, because lying beyond its province.

*Spinoza, Opera Omnia, Br.
 Edit. princ. aenuo edita præf.
 est C. H. Bruder. 3 vols. 16 mo.
 \$2.75—Leipsic. 1846.*

CHAPTER VII.

FIRST CRISIS IN MODERN PHILOSOPHY.

THE doctrine of Spinoza was of great importance, if for nothing more than having brought about the first crisis in modern Philosophy. His doctrine was so clearly stated, and so rigorously deduced from admitted premises, that he brought Philosophy into this dilemma—

Either my premises are correct ; and we must admit that every clear and distinct idea is *absolutely* true ; true, not only subjectively, but objectively ;

If so, my system is true ;

Or my premises are false ; the voice of Consciousness is not the voice of truth ;

And if so, then is my system false, but all Philosophy is impossible : since the only ground of Certitude—our Consciousness—is pronounced unstable, our only means of knowing the truth is pronounced fallacious.

Spinozism or Scepticism, choose between them, for you have no other choice.

Mankind refused, however, to make a choice. If the principles which Descartes had established could have no other result than Spinozism, it was worth while inquiring, whether those principles themselves might not be modified.

The ground of discussion was shifted : psychology took the place of ontology. It was Des-

cartes' theory of knowledge which led to Spinozism ; that theory therefore must be examined : that theory becomes the great subject of discussion. Before deciding upon the merits of any system which embraced the great questions of Creation, the Deity, Immortality, &c., men saw that it was necessary to decide upon the competence of the human mind to solve such problems.

All knowledge must be obtained either through experience, or independent of experience.

Knowledge dependent on experience must necessarily be merely knowledge of *phenomena*. All are agreed that experience can only be experience of ourselves as modified by objects. All are agreed that to know things *per se*—noumena—we must know them through some other channel than experience.

Have we, or have we not, that other channel ? This is the problem.

Thus before we can dogmatise upon ontological subjects we must settle this question :—

Can we transcend the sphere of our Consciousness and know things per se ?

And this question further resolves itself into—
Have we ideas independent of experience ?

To answer this question was the great object of succeeding philosophers. The fact that modern philosophy until Fichte was almost exclusively occupied with psychology has been constantly noticed ; but the reason why psychology assumed this importance, the reason why it took the place of all the higher subjects of speculation, has not we believe been distinctly stated. Men have contented themselves with the fact that psychology occupied little of the attention of antiquity, still less

of the attention of the middle ages ; and only in modern times has it been the real ground on which the contests of the schools have been carried on. Unless we are strangely mistaken, psychology was the result of a tendency similar to that which in science produced the Inductive Method. In both cases a necessity had arisen for a new course of investigation ; it had become evident that men had begun at the wrong end, and that before a proper answer could be given to any of the questions agitated, it was necessary first to settle the limits and conditions of inquiry, the limits and conditions of the inquiring faculties. Thus Consciousness became the basis of Philosophy ; to make that basis broad and firm, to ascertain its nature and capacity, became the first object of speculation.

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THIRD EPOCH.

PHILOSOPHY REDUCED TO A QUESTION OF PSYCHOLOGY.

- CHAP. I. HOBBS.
- CHAP. II. LIFE OF LOCKE.
- CHAP. III. SPIRIT OF HIS WRITINGS.
- CHAP. IV. HIS METHOD.
- CHAP. V. THE ORIGIN OF OUR IDEAS.
- CHAP. VI. ELEMENTS OF IDEALISM AND SCEPTICISM IN LOCKE.
- CHAP. VII. LOCKE'S CRITICS.
- CHAP. VIII. LEIBNITZ.
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CHAPTER I.

HOBBES.

WE had at one time determined to omit Hobbes from our History. His contributions to Philosophy, though not insignificant, had scarcely any influence, except through his illustrious successor, Locke. His real eminence lies in Politics ; there also lies his influence.

But on further consideration, finding that the much vilified, little read, Hobbes had not only been contemptuously treated by antagonists, but had also been neglected by historians, we thought that it would be unjust to pass over so great a name. Dugald Stewart, in his 'Historical Dissertation,' bestows only three pages upon Hobbes ; and those are pages of depreciation rather than of exposition. Mackintosh, whose admiration was greater, is more copious, and more instructive ; his temper was calmer than Stewart's, and he was better able to tolerate differences of opinion ; but in the account he has given of Hobbes there is little exposition, and of that little no portion is devoted to the psychological doctrines.

Perhaps no writer except Spinoza has ever been so uniformly depreciated as Hobbes. From his first appearance until the present day he has been a by-word of contempt with the majority of writers ; and even with those who have been liberal

enough to acknowledge merit in an adversary, he has been treated as a dangerous and shallow thinker. The first person who saw his prodigious importance as a political thinker, and had the courage to proclaim it, was, we believe, James Mill. But as long as political and social theories continue to be judged of by their *supposed* consequences, so long will Hobbes be denied a fair hearing. He has roused the *odium theologicum*. It will be long ere that will be appeased.

At the risk of incurring some of the odium cast upon his name, we cannot help standing up in his defence. Faults he had, unquestionably; shortcomings, incomplete views; and—as all error is dangerous in proportion to its plausibility—we will say that he was guilty of dangerous errors. But what then? Let the faults be noted, but not overstrained; the shortcomings and incomplete views enlarged and corrected; the errors calmly examined and refuted. We shall all be gainers by it; but by inconsiderate contempt, by screaming and vilifying, no result can be obtained. Impartial minds will always rank Hobbes amongst the greatest writers England has produced; and by writers we do not simply mean masters of language, but also masters of thought. He is profound and he is clear; weighty and sparkling. His style, as mere style, is in its way as fine as anything in English: it has the clearness of crystal, and it has also the solidity and brilliancy. Nor is the matter unworthy of this form. It is original; in the sense of having been passed through the alembic of his brain, even when perhaps the property of others. Although little of it could now appear novel, it was novel when he produced it. Haughty, dog-

matic, overbearing in manner, he loved Truth, and never hesitated to proclaim her. "Harm I can do none," he says, in the opening of the 'Leviathan,' "though I err no less than they (*i.e.* previous writers), for I shall leave men but as they are, in doubt and dispute; but intending not to take any principle upon *trust*, but only to put men in mind of what *they know already*, or may know by their experience, I hope to err less; and when I do, it must proceed from *too hasty concluding*, which I will endeavour as much as I can to avoid."*

In this passage we see Locke anticipated. It is also an evidence of the Baconian spirit. It proclaims that Psychology is a science of observation; that if we would understand the conditions and operations of our minds, we must patiently look inwards and see what passes there. All the reasoning and subtle disputation in the world will not advance us one step, unless we first get a firm basis on fact. "Man," he says elsewhere, with his usual causticity, "has the exclusive privilege of forming general theorems. But this privilege is alloyed by another, that is by the privilege of absurdity, to which no living creature is subject but man only. *And of men those are of all most subject to it, that profess Philosophy.*" And the cause of this large endowment of the privilege to Philosophers we may read in another passage, where he attributes the difficulty men have in receiving Truth, to their minds being prepossessed by false opinions—they having *prejudged* the question. The passage is as follows:—"When men have once acquiesced

* Works edited by Sir W. Molesworth, vol. iv. p. 1.

in untrue opinions, and registered them as authenticated records in their minds, it is no less impossible to speak intelligibly to such men than to write legibly on a paper already scribbled over."

Hobbes's position in the History of Philosophy is easily assigned. On the question of the origin of our knowledge he takes a decided stand upon Experience: he is the precursor of modern Materialism:—

"Concerning the thoughts of man I will consider them first singly, and afterwards in a train or dependence upon one another. Singly they are every one a *representation* or *appearance* of some quality or other accident of a body without us, which is commonly called an *object*. Which object worketh on the eyes, ears, and other parts of a man's body; and by diversity of working, produceth diversity of appearances.

"The original of them all is that which we call *Sense*, for there is no conception in a man's mind, which hath not at first totally or by parts been begotten upon the organs of sense. The rest are derived from that original."*

We have here stated in the broadest manner the principle of Materialism. It is a direct antagonism to the doctrine of Descartes that there are innate ideas; a direct antagonism to the old doctrine of the spirituality of Mind. Theoretically this principle is trivial; historically it is important, and we call attention to it.

* 'Leviathan,' chap. i.

In the following exposition we shall sometimes cite from the 'Leviathan' and sometimes from the 'Human Nature.' This general reference will enable us to dispense with iterated foot-notes.

Hobbes's language is plain enough, but we will still further quote from him to obviate any doubt as to his meaning:

“According to the two principal parts of man, I divide his faculties into two sorts—faculties of the *body*, and faculties of the *mind*.

“Since the minute and distinct anatomy of the powers of the body is nothing necessary to the present purpose, I will only sum them up in these three heads—power *nutritive*, power *generative*, and power *motive*.

“Of the powers of the mind there be two sorts—*cognitive*, *imaginative*, or *conceptive* and *motive*.

“For the understanding of what I mean by the power *cognitive*, we must remember and acknowledge that there be in our minds continually certain *images* or conceptions of the things without us. This *imagery* and *representations* of the qualities of the things without, is that which we call our *conception*, *imagination*, *ideas*, *notice*, or knowledge of them; and the *faculty*, or power by which we are capable of such knowledge, is that I here call *cognitive power*, or *conceptive*, the power of knowing or conceiving.”

The mind is thus wholly constructed out of sense. Nor must we be deceived by the words *faculty* and *power* which he speaks of, as if they meant any activity of the mind—as if they implied that the mind *co-operated* with sense. The last sentence of the foregoing passage is sufficient to clear up this point. He elsewhere says:—“All the qualities called *sensible* are, in the object that causeth them, but so many several *motions* of the matter by which it presseth on our organs diversely. *Neither in us that are pressed are they anything*

else but divers motions; for motion produceth nothing but motion."

Hobbes, therefore, and not Locke, is the precursor of that school of Psychology which flourished in the eighteenth century (principally in France), and which made every operation of the mind proceed out of *transformed sensations*; which ended, logically enough, in saying that to *think* is to *feel*, *penser c'est sentir*. We shall come to this school by-and-by; meanwhile we content ourselves with this historical indication.

It is to Hobbes that the merit is due of a discovery which, though so familiar to us now as to appear self-evident, was yet in truth a most important discovery, and was adopted by Descartes in his '*Meditations*'*—it is that our sensations do not correspond with any external qualities; that what are called sensible qualities are nothing but modifications of the sentient being:—

"Because the image in vision, consisting of colour and shape, is the knowledge we have of the qualities of the object of that sense; it is no hard matter for a man to fall into this opinion that the same colour and shape are the very qualities themselves; and for the same cause that sound and noise are the qualities of the bell or of the air. And this opinion hath been so long received that the contrary must needs appear a great paradox; and yet the introduction of *species visible* and *intelligible* (which is necessary for the maintenance of that opinion) passing to and fro from the object

* Descartes may possibly also have discovered it for himself; but the priority of publication is at any rate due to Hobbes—a fact first noticed, we believe, by Mr. Hallam.—*Lit. of Europe*, iii. 271.

is worse than any paradox, as being a plain impossibility. I shall, therefore, endeavour to make plain these points :

“ That the subject wherein colour and image are inherent, is not the object or thing seen.

“ That there is nothing without us (really) which we call an image or colour.

“ That the said image or colour is but an apparition unto us of *the motion, agitation, or alteration which the object worketh in the brain*, or spirits, or some internal substance of the head :

“ That as in vision, so also in conceptions that arise from the other senses, the subject of their inherence is not the object, but the sentient.”

This important principle, which Carneades among the ancients alone seems to have suspected,* Hobbes has very clearly and conclusively illustrated.

Sense furnishes us with conceptions ; but as there are other operations of the mind besides the conceptive, it remains to be seen how sense can also be the original of them.

And first, of *Imagination*.

Mr. Hallam has noticed the acuteness and originality which often characterize Hobbes's remarks ; and he instances the opening of the chapter on Imagination in the “ Leviathan.” It is worth quoting :—

“ That when a thing lies still, unless somewhat else stir it, it will lie still for ever, is a truth no one doubts of. But that when a thing is in motion it will eternally be in motion, unless somewhat else stay it, though the reason be the same, namely,

* *Vide* vol. ii. p. 171, sq.

that nothing can change itself, is not so easily assented to. For men measure not only other men but all other things by themselves; and because they find themselves subject after motion to pain and lassitude, think everything else grows weary of motion and seeks repose of its own accord; little considering whether it be not some other motion wherein that desire of rest, they find in themselves, consisteth."

Imagination Hobbes defines as a "conception remaining and by little and little decaying from and after the act of sense."

"Imagination, therefore, is nothing but *decaying sense*." The reader must not here understand by imagination anything more than the retaining of an *image* of the object, after the object is removed. It is the term used by Hobbes to express what James Mill happily called *Ideation*. Sense, Sensation; ideas, Ideation. Hobbes says, sense, Sensation; images, Imagination.

The materialism of Hobbes's theory does not consist merely in his language (as is the case with some philosophers; Locke, for instance); it lies at the very root of the theory. Thus, he says, we have sensations and we have images—ideas. Whence those images? Listen: "When a body is once in motion it moveth, unless something hinder it, eternally; and whatsoever hindereth it, cannot in an instant, but in time and by degrees, quite extinguish it; and, as we see in the water, though the wind cease, the waves give not over rolling for a long time after: so also it happeneth in that *motion* which is made in the internal parts of man; then, when he sees, dreams, &c. For after the object is removed, or the eye shut, we still retain an image

of the thing seen, though more obscure than when we see it. . . . The decay of sense in men waking is not the decay of the motion made in sense, but an obscuring of it, in such manner as the light of the sun obscureth the light of the stars ; which stars do no less exercise their virtue, by which they are visible in the day than in the night. But because amongst many strokes which our eyes, ears, and other organs receive from external bodies, the predominant only is sensible ; therefore the light of the sun being predominant we are not affected with the action of the stars." This illustration is very happy ; but it only serves to bring out into stronger relief the materialism of the theory.

He has told us what Imagination is ; let us now learn what is Memory.

" This decaying sense, when we would express the thing itself, I mean *fancy* itself, we call *imagination*, as I said before : but when we would express the decay, and signify that the sense is fading, old, and past, it is called *memory*. So that imagination and memory are but one thing, which, for divers considerations hath divers names."

Mr. Hallam objects to this, and says that it is very evident that imagination and memory are distinguished by something more than their names. Truly, by us ; but not by Hobbes : he evidently uses the word imagination in a more generical sense than we use it : he means by it ideation. Thus he calls dreams " the imagination of them that sleep." It is that state of the mind which remains when the objects which agitated it by sensations, are removed : the mind is then not so agitated, but neither is it calm ; and he compares that

state to the gentle rolling of the waves after the wind hath ceased.

Let this be distinctly borne in mind: Hobbes sees nothing in the intellect but what was previously in the sense. Sensations, and the traces which they leave (*i. e.* images), form the simple elements of all knowledge; the various commixtures of these elements form the various intellectual faculties. We may now open at the third chapter of the '*Leviathan*.' In it he the first propounded, as something quite simple and obvious, the very important law of association of ideas. He states it with great clearness and thorough mastery, though he evidently was quite unaware of its extensive application.

"When a man thinketh," he says, "on anything whatsoever, his next thought after is not altogether so casual as it seems to be. Not every thought to every thought succeeds indifferently. But as we have no imagination whereof we have not formerly had sense in whole or in parts, so we have no transition from one imagination to another whereof we never had the like before in our senses. The reason whereof is this: all fancies (*i. e.* images) are motions within us, relics of those made in sense; and those motions that immediately succeed one another in the sense continue also together after the sense; inasmuch as the former coming again to take place and be predominant, the latter followeth by coherence of the matter moved, in such manner as water upon a plain table is drawn which way any one part of it is guided by the finger."

The materialism here is distinct enough! He continues in excellent style:—"This train of thoughts, or mental discourse, is of two sorts. The

first is unguided, without design, and inconstant, wherein there is no passionate thought to govern and direct those that follow to itself, as the end and scope of some desire or other passion; in which case the thoughts are said to wander, and seem impertinent one to another as in a dream. Such are commonly the thoughts of men that are not only without company but also without care of anything; though even then their thoughts are as busy as at other times, but without harmony; as the sound which a lute out of tune would yield to any man; or in tune, to one that could not play. And yet in this wild ranging of the mind a man may oftentimes perceive the way of it, and the dependence of one thought upon another. For in a discourse of our present civil war, what would seem more impertinent than to ask, as one did, what was the value of a Roman penny? Yet the coherence to me was manifest enough. For the thought of the war introduced the thought of delivering up the king to his enemies; the thought of that brought in the thought of the delivering up of Christ; and that again the thought of the thirty pence, which was the price of that treason; and thence easily followed that malicious question, and all this in a moment of time; for thought is quick."

"For thought is quick." This is the simple pregnant comment, justly deemed sufficient. It is no purpose of this history to dwell upon literary merits; "but the style," as Buffon says, "is the man," and occasionally we are forced to notice it. The plain direct remark with which Hobbes concludes the above passage would, in the hands of many moderns, have run somewhat thus:—"How

wonderful is thought! how mighty! how mysterious! In its lightning speed it traverses all space, and makes the past present!" Hobbes, with a few simple direct words, produces a greater impression than would all the swelling pomp of a passage bristling with notes of exclamation. This is the secret of his style. It is also the characteristic of his speculations. Whatever faults they may have they have no vagueness, no pretended profundity. As much of the truth as he has clearly seen he clearly exhibits; what he has not seen he does not pretend to see.

One important deduction from his principles he has drawn: "Whatsoever we imagine is *finite*. Therefore there is no idea, no conception of anything we call *infinite*. No man can have in his mind an image of infinite magnitude, nor conceive infinite swiftness, infinite time, or infinite power. When we say that anything is infinite, we signify only that we are not able to conceive the ends and bounds of the thing named, having no conception of the thing, but of our own inability. And therefore the name of God is used not to make us conceive him, for he is incomprehensible, and his greatness and power are inconceivable, but that we may honour him. Also because whatsoever we conceive has been perceived first by sense, either all at once or by parts; *a man can have no thought representing anything not subject to Sense.*"

This is frank, but is it true?

On Hobbes's principles it is irresistible. His error lies in assuming that all our *thoughts* must be *images*. So far is this from being true, that not even all our *sensations* are capable of forming images.

Every man's Consciousness will assure him of this. It will also assure him that he has the idea, notion, conception, figment (or whatever name he may give the thought) of Infinity. If he attempts to form an image of it, that image will of course be finite: it would not otherwise be an image. But he can think of it; he can reason of it. It is a *thought*. It is in his mind; though how it got there may be a question.

The incompleteness of Hobbes's psychology lies in the inability to answer this question. If the maxim he adopts be true: *nihil est in intellectu quod non prius fuerit in sensu*, the question is insoluble; or rather, the question itself is a practical refutation of the maxim.

We insist upon Hobbes's materialism, the better to prepare the reader for a correct appreciation of Locke: one of the most misrepresented of plain writers. Hobbes, in the sixth chapter of his 'Human Nature,' has very carefully defined what he means by knowledge. "There is a story somewhere," he says, "of one that pretends to have been miraculously cured of blindness, wherewith he was born, by St. Alban or other saints, at the town of St. Alban's; and that the Duke of Gloucester being there, to be satisfied of the truth of the miracle, asked the man, What colour is this? who, by answering it was green, discovered himself and was punished for a counterfeit: for though by his sight newly received he might distinguish between green and red and all other colours, as well as any that should interrogate him, yet he could not possibly know at first sight which of them was called green, or red, or by any other name.

“ By this we may understand there be *two kinds* of knowledge, whereof the one is nothing else but *sense*, or knowledge *original*, and *remembrance* of the same; the other is called *science* or knowledge of the *truth of propositions*, and how things are called, and is derived from *understanding*. Both of these sorts are but *experience*; the former being the experience of the effects of things that work upon us from *without*; and the latter experience men have from the proper use of *names* in language: and all experience being, as I have said, but remembrance, all knowledge is remembrance.”

The only ambiguity possible in the above passage is that which might arise from the use of the word *understanding*. This he elsewhere defines as follows:—

“ When a man upon the hearing of any speech hath those thoughts which the words of that speech and their connexion were ordained and constituted to signify, then he is said to understand it; *understanding* being nothing else but conception formed by speech.”

We must content ourselves with merely alluding to his admirable observations on language, and with quoting, for the hundredth time, his weighty aphorism, “ Words are wise men’s counters; they do but reckon by them; but they are the money of fools.”

No attempt is made here to do justice to Hobbes; no notice can be taken of the speculations which made him famous. Our object has been fulfilled if we have made clear to the reader the position Hobbes occupies in modern psychological speculation.

CHAPTER II.

LIFE OF JOHN LOCKE.

JOHN LOCKE, one of the wisest and sincerest of Englishmen, was born at Urrington in Somersetshire, on the 29th August, 1632. Little is known of his family except that his father had served in the Parliamentary wars: a fact not without significance in connexion with the steady love of liberty manifested by the son.

His education began at Westminster, where he stayed till he was nineteen or twenty. He was then sent to Oxford. That university was distinguished then, as it has ever been, by its attachment to whatever is old: the Past is its model; the Past has its affection. That there is much good in this veneration for the Past, we will not gainsay. Nevertheless, a university which piques itself on being behind the age, is not the place for an original thinker. Locke was ill at ease there. The Philosophy which was then upheld there was Scholasticism. On such food a mind like Locke's could not nourish itself. Like his great predecessor Bacon, he imbibed a profound contempt for the university studies, and in after life regretted that so much of his time should have been wasted on such profitless pursuits. So deeply convinced was he of the vicious method of college education,

that he ran into the other extreme, and thought self-education the best.

There is a mixture of truth and error in this notion which we can here only indicate. It is true that all great men have been self-taught; or, to state the matter more clearly, all that is most valuable a man must learn for himself, must work out for himself. It is not what we are taught, but what we conquer for ourselves that constitutes *nourishment*: what we are taught is laid up in the lumber-room of the mind, from whence it may be drawn for purposes of display or for purposes of tuition; it seldom nourishes the mind.

So far goes the advocacy of self-tuition. The error of it lies in supposing that all men *will* educate themselves if left to themselves. The fact is, the majority have to be educated by force. For those who, left to themselves, would never educate themselves, colleges and schools are indispensable.

Locke's notion of an educated man is very characteristic of him. Writing to Lord Peterborough, he says, "Your lordship would have your son's tutor a thorough scholar, and I think it not much matter whether he be any scholar or no: if he but understand Latin well and have a general scheme of the sciences, I think that enough. But I would have him well-bred and well-tempered."

Disgusted with the disputes which usurped the title of Philosophy, Locke while at Oxford principally devoted himself to Medicine. His proficiency is attested by two very different persons and in two very different ways. Dr. Sydenham, in the Dedication of his 'Observations on the History and Cure of Acute Diseases,' boasts of the approbation bestowed on his Method by Mr.

John Locke, "who examined it to the bottom; and who, if we consider his genius and penetrating and exact judgment, has scarce any superior, and few equals now living." The second testimony is that afforded by Lord Shaftesbury, where Locke first met him. The Earl was suffering from an abscess in the chest. No one could discover the nature of his disorder. Locke at once divined it. The Earl followed his advice; submitted to an operation and was saved. A close intimacy sprang up between them. Locke accompanied him to London, and resided principally in his house.

His attention was thus turned to politics. His visits to Holland delighted him. "The blessings which the people there enjoyed under a government peculiarly favourable to civil and religious liberty, amply compensated in his view for what their uninviting territory wanted in scenery and climate."* He also visited France and Germany: making the acquaintance of several distinguished men.

In 1670 he planned his *Essay concerning Human Understanding*. This he did not complete till 1687. In 1675 his delicate state of health obliged him to travel, and he repaired to the south of France, where he met Lord Pembroke. To him the Essay is dedicated. He returned in 1679, and resumed his studies at Oxford. But his friendship with Shaftesbury, and the liberal opinions he was known to hold, drew upon him the displeasure of the Court. He was deprived of his studentship by a very arbitrary act. Nor did persecution stop there. He was soon forced to quit

* Dugald Stewart.

England and find refuge at the Hague. There also the anger of Charles pursued him, and he was obliged to retreat farther into Holland. It was there he published his celebrated *Letter on Toleration*.

He did not return to England till after the Revolution. Then there was security and welcome. He was pressed to accept a high diplomatic office in Germany, but the state of his health prevented him.

In 1690 the first edition of his 'Essay' appeared. He had indeed already (1688) published an abridgment of it in Leclerc's 'Bibliothèque Universelle.' The success of this 'Essay' was immense; and Warburton's assertion to the contrary falls to the ground on the mere statement of the number of editions which the work rapidly went through. Six editions within fourteen years,* and in times when books sold more slowly than they sell now, is evidence enough.

The publication of his 'Essay' roused great opposition. He soon got involved in the discussions with Stillingfleet, Bishop of Worcester. He was soon after engaged in the political discussions of the day, and published his 'Treatise on Government.' It was about this time that he became ac-

* The writer of the article 'Locke,' in the 'Ency. Brit.,' says that the fourth edition appeared in 1700. Victor Cousin repeats the statement, and adds that a fifth edition was preparing when death overtook the author; this fifth edition appeared in 1705.

We know not on what authority these writers speak; but that they are in error may be seen by turning to Locke's 'Epistle to the Reader,' the last paragraph of which announces that the edition then issued by Locke himself is the sixth. He died in 1704.

quainted with Sir Isaac Newton ; and a portion of their very interesting correspondence has been given by Lord King in his ' Life of Locke.'

Locke's health, though always delicate, had not been disturbed by any imprudencies, so that he reached the age of seventy-two—a good ripe age for one who has studied and thought. He expired in the arms of his friend, Lady Masham, on the 28th October, 1704.

CHAPTER III.

ON THE SPIRIT OF LOCKE'S WRITINGS.

IT has for many years been the fashion to decry Locke. Indirect sneers at his "superficiality" abound in the writings of those who, because they are muddy and cannot see their bottom, fancy they are profound. Locke's "materialism" is also a favourite subject of condolence with these writers; and they fearlessly assert that his principles "lead to Atheism." Lead *whom*?

Another mode of undervaluing Locke is to assert that he only borrowed and popularised the ideas originated by Hobbes. The late Mr. Hazlitt—an acute thinker and a metaphysician, but a wilful reckless writer—used to fly into a passion at the idea of Locke being regarded as a great thinker; and deliberately asserted that Locke owed everything to Hobbes. Dr. Whewell repeats the charge, though in a more qualified manner. He says—"Hobbes had already promulgated the main doctrines, which Locke afterwards urged, on the subject of the origin and nature of our knowledge."

Locke is no favourite at Cambridge, we know, although he is one of the students' text-books; and of all Cambridge men, perhaps, with no one could he be less congenial than with Dr. Whewell. Locke is one of the clearest of thinkers, and one of the homeliest. The antagonism between him and

Dr. Whewell is radical. We are therefore little surprised to find the great Englishman thus appreciated by the Professor:—"Locke owed his authority mainly to the intellectual circumstances of the time. Although a writer of great merit, he by no means possesses such metaphysical acuteness, or such philosophical largeness of view, or such a charm of writing, as to give him the high place he has held in the literature of Europe."

That Locke did not borrow his ideas from Hobbes will be very apparent in our exposition of Locke; but meanwhile we may quote the testimony of Sir James Mackintosh, one of the best read of our philosophers, and one intimately acquainted with both these thinkers:—

"Locke and Hobbes agree chiefly on those points in which, except the Cartesians, all the speculators of their age were agreed. They differ on the most momentous questions—the sources of knowledge, the power of abstraction, the nature of the will; on the two last of which subjects, Locke, by his very failures themselves, evinces a strong repugnance to the doctrines of Hobbes. They differ not only in their premises and many of their conclusions, but in their manner of philosophizing itself. Locke had no prejudice which could lead him to imbibe doctrines from the enemy of liberty and religion. His style, with all its faults, is that of a man who thinks for himself; and an original style is not usually the vehicle of borrowed opinions."*

To this passage we will add another from a writer the weight of whose authority must carry

* 'Edin. Review' for October, 1821, p. 242.

conviction to all who knew his works, distinguished, as they are, no less by the thorough knowledge of the subject than by the clear depth and mastery of the speculations brought forward :—

“ Few among the great names in philosophy have met with a harder measure of justice from the present generation than Locke, the unquestioned founder of the analytic philosophy of mind, but whose doctrines were first caricatured, then, when the reaction arrived, cast off by the prevailing school even with contumely, and who is now regarded by one of the conflicting parties in philosophy as an apostle of heresy and sophistry ; while among those who still adhere to the standard which he raised, there has been a disposition in later times to sacrifice his reputation in favour of Hobbes—a great writer and a great thinker for his time, but inferior to Locke not only in sober judgment, but even in profundity and original genius. Locke, the most candid of philosophers, and one whose speculations bear on every subject the strongest mark of having been wrought out from the materials of his own mind, has been mistaken for an unworthy plagiarist, while Hobbes has been extolled as having anticipated many of his leading doctrines. He did not anticipate many of them, and the present is an instance in what manner it was generally done. [The writer is speaking of Locke's refutation of *Essences*.] They both rejected the scholastic doctrine of Essences, but Locke understood and explained what these supposed essences were. Hobbes, instead of explaining the distinction between essential and accidental properties, and between essential and accidental

propositions, jumped over it, and gave a definition which suits, at most, only essential propositions, and scarcely those, as the definition of Proposition in general.”*

Dugald Stewart, indeed, says that “it must appear evident Locke had diligently studied the writings of Hobbes;” but Sir J. Mackintosh, as quoted above, has explained why Locke appears to have studied Hobbes, and Stewart is far from implying that Locke therefore gained his principal ideas from Hobbes. Indeed he has an admirable note in which he points out how completely Locke’s own was the important principle of *Reflection*. “This was not merely a step *beyond* Hobbes, but the correction of an error which lies at the very root of Hobbes’s system.”†

We have heard great authorities speak. Let us now cast a glance at the facts.

That Locke never read Hobbes may seem incredible, but we are convinced of its truth. It is one among many examples of how few were the books he had read. He never alludes to Hobbes in any way that can be interpreted into having read him. Twice only, we believe, does he allude to him, and then so distantly, and with such impropriety, as to be quite convincing with respect to his ignorance. The first time is in his ‘Reply to the Bishop of Worcester,’ in which he absurdly classes Hobbes and Spinoza together. He says—“I am not so well read in Hobbes and Spinoza as to be able to say what were their opinions on this matter, but possibly there be those who will think

* Mill’s ‘System of Logic,’ vol. i. p. 150.

† ‘Dissertation on the Progress of Met. Phil.,’ p. 114. The note is very long and curious.

your Lordship's authority of more use than *those justly-decried writers*." The term of expression, "I am not so well read," &c., is obviously equivalent to I have never read those justly-decried writers. His second allusion is simply this:—"A Hobbist would probably say." We cannot at present lay our hands on the passage, but it refers to some moral question.

The above is only negative evidence. Something like positive evidence, however, is the fact that Hobbes's great discovery of Association of Ideas—a principle as simple of apprehension as it is important—was completely unknown to Locke, who first, in the fourth or fifth edition, added the chapter on Association as it now stands. Moreover, Locke's statement of the law is by no means so satisfactory as that by Hobbes: he had not so thoroughly mastered it; yet, had he read it in Hobbes, he would assuredly have improved on it. That he did not at first introduce it into his work is a strong presumption that he had never read Hobbes, because the law is so simple and so evident, when stated, that it must produce instantaneous conviction.

It is strange that any man should have read Locke and questioned his originality. There is scarcely a writer we could name whose works bear such an indisputable impress of his having "raised himself above the almsbasket, and not content to live lazily on scraps of begged opinions, set his own thoughts to work to find and follow truth."

It is still more strange that any man should have read Locke and questioned his power. That patient sagacity which, above all things, distinguishes a philosopher, is more remarkable in Locke than

almost any writer. He, too, was largely endowed with good sense; a quality, as Gibbon remarks, which is rarer than genius. In these two qualities, and in his homely racy masculine style, we see the type of the English mind when at its best. The plain directness of his manner, his earnestness without fanaticism, his hearty honest love of truth, and the depth and pertinence of his thoughts, are qualities which, though they do not dazzle the reader, yet win his love and respect. There, in that volume, you have the honest thoughts of a great honest Englishman. It is the product of a manly mind: clear, truthful, direct. No vague formulas—no rhetorical flights—no base flattery of base prejudices—no assumption of oracular wisdom, no word-jugglery. There are so many writers who cover their vanity with a veil of words, who seem profound because they are obscure, that a plainness like Locke's deceives the careless reader, who is led to suppose that what is there so plain must have been obvious.

Locke, though a patient, cautious thinker, was anything but a timid thinker; and it does great honour to his sagacity, that at a time when all scientific men were exclaiming against the danger of hypotheses, believing that the extravagant errors of schoolmen and alchemists were owing to their use of hypotheses, a time when the great Newton himself could be led into the vain boast *hypotheses non fingo*, our wise Locke should exactly appreciate them at their true value. He says,

“Not that we may not, to explain any phenomena of nature, make use of any probable hypothesis whatsoever. Hypotheses, if they are well made, are at least great helps to memory, and often

direct us to new discoveries. But we should not take them up too hastily (which the mind that would always penetrate into the causes of things, and have principles to rest on, is very apt to do) till we have very well examined particulars, and made several experiments in that thing which we would explain by our hypothesis, and see whether it will agree to them all; whether our principles will carry us quite through, and not be as inconsistent with one phenomenon of nature as they seem to accommodate and explain another; and, at least, that we take care that the name of principles deceive us not nor impose on us, by making us receive that for an unquestionable truth which is really at best but a very doubtful conjecture: such as are most (I had almost said all) of the hypotheses in natural philosophy."

Locke did not seek to dazzle; he sought Truth, and wished all men to accompany him in the search. He was not bigoted. He would exchange his opinions with ease when he fancied that he saw their error. He readily retracted ideas which he had published in an immature form; "thinking myself," as he says, "more concerned to quit and renounce any opinion of my own than oppose that of another, when truth appears against it."

He had a just and incurable suspicion of all "great volumes swollen with ambiguous words." He knew how much jugglery goes on with words; some of it conscious, some of it unconscious, but all pernicious. "Vague and insignificant forms of speech and abuse of language have for so long passed for mysteries of science; and hard and misapplied words, with little or no meaning, have, by

prescription, such a right to be mistaken for deep learning and height of speculation, that it will not be easy to persuade either those who speak, or those who hear them, that they are but the covers of ignorance and hindrance of true knowledge. To break in upon this sanctuary of vanity and ignorance will be, I suppose, some service to the human understanding."

Locke had an analytical mind. He desired to understand and to explain things, not to flourish rhetorically about them. There were mysteries enough which he was contented to let alone; he knew that human faculties were limited, and reverentially submitted to ignorance on all things which were beyond his reach. But though he bowed down before that which was essentially mysterious, he was anxious not to allow that which was essentially cognizable to be enveloped in mystery. Let that which is a mystery remain undisturbed: let that which is not necessarily a mystery be brought into the light of day. Know the limits of your understanding—*beyond* those limits it is madness to attempt to penetrate; *within* those limits it is folly to let in darkness and mystery, to be incessantly wondering and always assuming that matters cannot be so plain as they appear, and that something lying deeper courts our attention.

To minds otherwise constituted—to men who love to dwell in the vague regions of speculation—to men who are only at ease in an intellectual twilight—Locke (though if honestly studied he would be a strengthener) is naturally a disagreeable teacher. He flatters none of their prejudices; he fits in with none of their tendencies. Mistaking obscurity for depth, they accuse him of being super-

facial. The owls declare that the eagle is blind. They want the twilight; he

“Wantons in the smile of Jove.”

It has become, as we said, a fashion to decry Locke. So frequent are the sneers and off-hand charges against him, that we, who had read him in our youth with delight, began to suspect that the admiration had been rash. The proverb says, “Throw but mud enough, some will be sure to stick.” It was so with Locke. Reiterated depreciation had somewhat defaced his image in our minds. The time came, however, when, for the purposes of this history, we had to read the ‘Essay on Human Understanding’ once more. We read it through, pen in hand, carefully, admiringly. The image of John Locke was again revived within us; this time in more than its former splendour. His modesty, honesty, truthfulness, and directness we had never doubted; but now the vigour and originality of his mind, the raciness of his colloquial style, the patient analysis by which he has laid open to us such vast tracts of thought, and above all, the manliness of his truly practical understanding, are so strongly impressed upon us, that we feel satisfied the best answer to his critics is to say, *read him*.

Amongst our readers many, very many, must have read and thought over Locke. We earnestly say to them, “Read him again;” to those who have never read him, our exhortation is still warmer. From communion with such a mind as his nothing but good can result. He suggests as much as he teaches; and it has been well said, “that we cannot speak of his Essay without the deepest reve-

rence ; whether we consider the era which it constitutes in philosophy, the intrinsic value even at the present day of its thoughts, or the noble devotion to truth, the beautiful and touching earnestness and simplicity which he not only manifests in himself, but has the power, beyond almost any writer, of infusing into his reader." It is a book—to use a phrase, hacknied, indeed, but here true enough—to make one wiser and better.

From this panegyric it must not be supposed that the 'Essay' is held up as containing the true exposition of the understanding and its laws. Locke was the originator of modern psychology. He did not perfect it : it is but yet in its infancy. There is much that is incomplete in the 'Essay,' and succeeding inquirers have carried out his principles much farther than he foresaw ; but with all deductions made, it remains a monument of everlasting substance. To use the words of Sir James Mackintosh, " Few books have contributed more to rectify prejudice—to undermine established errors.—to diffuse a just mode of thinking—to excite a fearless spirit of inquiry—and yet to contain it within the boundaries which nature has prescribed to the human understanding. An amendment of the general habits of thought is, in most parts of knowledge, an object as important as even the discovery of new truths, though it is not so palpable, nor in nature so capable of being estimated by superficial observers. In the mental and moral world, which scarcely admits of anything that can be called discovery, the correction of the intellectual habits is probably the greatest service which can be rendered to science. In this respect the merit of Locke is unrivalled : his writings have

diffused throughout the civilized world the love of civil liberty—the spirit of toleration and charity in religious differences—the disposition to reject whatever is obscure, fantastic, or hypothetical in speculation—to reduce verbal disputes to their proper value—to abandon problems which admit of no solution—to distrust whatever cannot be clearly expressed—to render theory the simple expression of facts—and to prefer those studies which most directly contribute to human happiness. If Bacon first discovered the rules by which knowledge is improved, Locke has most contributed to make mankind at large observe them. He has done most, though often by remedies of silent and almost insensible operation, to cure the distempers which obstructed the operation of these rules, and thus led to that general diffusion of a healthy and vigorous understanding which is at once the greatest of all improvements, and the instrument by which all other improvements must be accomplished. He has left to posterity the instructive example of a prudent Reformer, and of a philosophy temperate as well as liberal, which spares the feelings of the good, and avoids direct hostility with obstinate formidable prejudice. If Locke made few discoveries, Socrates made none. Yet both did more for the improvement of the understanding, and not less for the progress of knowledge, than the authors of the most brilliant discoveries. Mr. Locke will ever be regarded as one of the greatest ornaments of the English nation, and the most distant posterity will speak of him in the language addressed to him by the poet (Gray).

“O decus Angliæ certe, O lux altera gentis !”*

* ‘Ed. Rev.’ Oct., 1821, p. 243.

CHAPTER IV.

LOCKE'S METHOD.

"It may be said that Locke created the science of Metaphysics," says D'Alembert, "in somewhat the same way as Newton created Physics. . . . To understand the soul, its ideas, and its affections, he did not study books; they would have misdirected him; he was content to descend within himself, and after having, so to speak, contemplated himself a long while, he presented in his 'Essay' the mirror in which he had seen himself. In one word, he reduced Metaphysics to that which it ought to be, viz. the experimental physics of the mind." *

This is great praise, and from a high authority, but we suspect that it can only be received with some qualification. Locke made no grand discovery, equal to Newton's, which changed the face of science. He was not even the first to turn his glance inwards. Descartes and Hobbes had been before him.

Yet Locke had his Method; a Method peculiarly his own. Others before him had cast a hasty glance inwards, and dogmatised upon what they saw. He was the first to watch patiently the

* "En un mot, il réduisit la métaphysique à ce qu'elle doit être, en effet, la physique expérimentale de l'âme."—*Discours Prélim. de l'Encyclopédie.*

operations of his mind, that, watching, he might surprise the evanescent thoughts, and steal from them the secret of their combinations. He is the founder of Modern Psychology. By him the questions of Philosophy are boldly and scientifically reduced to the primary question of the limits of human understanding. By him is begun the *history* of the development and combination of our thoughts. Others had contented themselves with the thoughts as they found them; Locke sedulously inquired into the *origin* of all our thoughts.

M. Victor Cousin, who, as the type of a rhetorician, is in constant antagonism to the clear and analytical Locke, makes it an especial grievance that Locke and his school have considered the question respecting the origin of ideas as fundamental. "It is from Locke," he continues, "that has been borrowed the custom of referring to savages and children, upon whom observation is so difficult; for the one class we must trust to the reports of travellers, often prejudiced and ignorant of the language of the country visited; for the other class (children), we are reduced to very equivocal signs." *

Really we cannot see how Locke should avoid referring to savages and children, if he wanted to collect facts concerning the origin of ideas; this is inseparable from the psychological Method. Perhaps no source of error has been more abundant than the obstinacy with which men have in all times looked upon their indissoluble associations as irresistible truths—as primary and universal

* 'Histoire de la Philos.,' 17 leçon.

truths.* A little analysis—a little observation of minds removed from the influences which fostered those associations, would prove that those associations were not universal truths, but simply associations. It is because men have analysed the cultivated mind that they have been led to false results; had they compared their analysis with that of an uncultivated mind, they might have gained some insight. Locke saw clearly enough that the philosophers were wrong in method as well as in object. He saw that no advance could be made by dogmatising upon loose data. He saw, moreover, that philosophers were accustomed to consider their minds as types of the human mind; whereas their minds being filled with false notions, and warped by prejudices, could in nowise be taken as types, for even granting that the majority of their notions were *true*, yet these true notions were not portions of the furniture of universal minds. He sought for illustrations from such minds as had not been so warped.

What was Locke's object? He has told us:—
“To inquire into the *original, certainty, and extent* of human knowledge.” He was led to this by a conversation with some friends, in which disputes growing warm, “after we had puzzled ourselves awhile, without coming any nearer a resolution of those doubts which perplexed us, it came into my thoughts that we took a *wrong course*; and that before we set ourselves upon inquiries of that nature, it was necessary to examine our own

* This will be more fully discussed hereafter. See Epoch viii. chap. v.

abilities, and *see what objects our understandings were or were not fitted to deal with.*"

The plan he himself laid down is as follows:—

"First, I shall inquire into the original of those ideas, notions, or whatever else you please to call them, which a man observes and is conscious to himself he has in his mind; and the ways whereby the understanding comes to be furnished with them.

"Secondly, I shall endeavour to show what knowledge the understanding hath by those ideas; and the certainty, evidence, and extent of it.

"Thirdly, I shall make some inquiry into the nature and grounds of faith or opinion; whereby I mean that assent which we give to any proposition as true, of whose truth we have yet no certain knowledge; and we shall have occasion to examine the reasons and degrees of assent."

We may here see decisively settled the foolish question so often raised respecting the importance of Locke's Inquiry into Innate Ideas. "For Locke and for his school," says M. Cousin, justly, "the study of understanding is the study of Ideas; hence the recent celebrated name of Ideology for the designation of the science of mind."

Indeed, as we have shown, the origin of Ideas was the most important of all questions; upon it rested the whole problem of Philosophy.

Locke has given us a few indications of the state of opinion respecting Innate Ideas, which it is worth while collecting. "I have been told that a short epitome of this treatise which was printed in 1688 was condemned by some without reading, because innate ideas were denied in it, they too hastily concluding that if innate ideas were not

supposed there would be little left either of the notion or proof of spirits." Recapitulating the contents of the chapter devoted to the refutation of innate ideas, he says, "I know not how absurd this may seem to the masters of demonstration, and probably it *will hardly down with anybody at first hearing.*" And elsewhere: "What censure doubting thus of innate principles may deserve from men, who will be apt to call it pulling up the old foundations of knowledge and certainty, I cannot tell; I persuade myself at least that the way I have pursued, being conformable to truth, lays those foundations surer." How well he anticipated his critics!

Locke's Method was purely psychological; although he had been a student of medicine, he never indulges in any physiological speculations, such as his disciples Hartley and Darwin delighted in. Ideas, and ideas only, occupied his analysis. Dugald Stewart has remarked that in the 'Essay' there is not a single passage savouring of the anatomical theatre or of the chemical laboratory.

We have already spoken of the *positivism* of Bacon; that of Locke shall now speak for itself in his own words:—

"If by this inquiry into the nature of the understanding I can discover the powers thereof, how far they reach, to what things they are in any degree proportionate, and where they fail us, I suppose it may be of use to prevail with the busy mind of man to be more cautious in meddling with the things exceeding its comprehension, to stop when it is at the utmost extent of its tether, and *sit down in a quiet ignorance of those things which upon examination are found to be beyond the reach*

of our capacities. We should not then perhaps be so forward, out of an affectation of universal knowledge, to raise questions and perplex ourselves and others about things to which our understandings are not suited, and of which we cannot frame in our minds any clear or distinct perceptions, or whereof (as it has perhaps too often happened) we have not any notions at all. Men have reason to be well satisfied with what God has thought fit for them, since he has given them, as St. Peter says, πάντα πρὸς ζωὴν καὶ εὐσέβειαν, whatsoever is necessary for the convenience of life and the information of virtue; and has put within the reach of their discovery the comfortable provision for this life, and the way that leads to a better. How short soever their knowledge may be of an universal or perfect comprehension of whatever is, it yet secures their great concerns, that they have light enough to lead them to the knowledge of their Maker and the *sight of their own duties.* Men may find matter sufficient to busy their heads and employ their hands with variety, delight, and satisfaction, if they will not boldly quarrel with their own constitutions, and throw away the blessings their hands are filled with because they are not big enough to grasp everything.

"We shall not have much reason to complain of the narrowness of our minds, if we will but employ them about what may be of use to us, for of that they are very capable; and it will be an unpardonable as well as childish peevishness, if we undervalue the advantages of our knowledge, and neglect to improve it to the ends for which it was given us, because there are some things set out of reach of it. It will be no excuse to an idle and

untoward servant who would not attend his business by candle-light, to plead that he had not broad sunshine. *The candle that is set up within us shines bright enough for all our purposes.*

“When we know our own strength we shall the better know what to undertake with hopes of success; * and when we have well surveyed the powers of our own minds, and made some estimate what we may expect from them, we shall not be inclined either to sit still, and not set our thoughts on work at all, despairing of knowing any thing; or, on the other side, question every thing, and disclaim all knowledge because some things are not to be understood. It is of great use to the sailor to know the length of his line, though he cannot with it fathom all the depths of the ocean. It is well he knows that it is long enough to reach the bottom at such places as are necessary to direct his voyage, and caution him against running upon any shoals that they may ruin him. . . . This was that which gave the first rise to this Essay concerning the understanding; for I thought that the first step towards satisfying several inquiries the mind of man was very apt to run into, was to take a survey of our own understandings, and to see to what things they were adapted. Till that was done I suspected we began at the wrong end, and in vain sought for satisfaction in a quiet and sure possession of truths that most concerned us, whilst we let loose our thoughts into the vast ocean of being; as if that boundless extent were the

* “The real cause and root of almost all the evils in science is this: that falsely magnifying and extolling the powers of the mind, we seek not its true helps.”—*Bacon*.

natural and undoubted possession of our understandings, wherein there is nothing exempt from its decisions, or that escaped its comprehension. Thus men extending their inquiries beyond their capacities, and letting their thoughts wander into those depths where they can find no sure footing, it is no wonder that they raise questions and multiply disputes, which never coming to any clear resolution, are proper only to continue and increase their doubts, and to confirm them at last in perfect scepticism."

No apology is necessary for the length of these extracts; their calm wisdom will be appreciated by all; and the decisive manner in which Locke separates himself from the ontologists is not only historically noteworthy, but is also noticeable as giving the tone to his subsequent speculations. We have admired the Portico; let us enter the Temple.

CHAPTER V.

THE ORIGIN OF OUR IDEAS.

HOBBS had said, with Gassendi, that all our ideas are derived from sensations ; *nihil est in intellectu quod non prius fuerit in sensu.*

Locke, who is called a mere popularizer of Hobbes, said that there were *two* sources, not *one* source, and these two were SENSATION and REFLECTION.

Separating himself decisively from the upholders of the doctrine of innate ideas—of truths independent of experience,—he declared that all our knowledge is founded on experience, and from that it ultimately derives itself.

Separating himself no less decisively from the Gassendists, who saw no source of ideas but Sensation, he declared that although SENSATION was the great source of most of our ideas, yet there was “another fountain from which experience furnisheth the understanding with ideas ;” and this source, “*though it be not sense*, as having nothing to do with external objects, yet it is very like it, and might properly enough be called *internal sense* :” this he calls REFLECTION.

After Dugald Stewart’s ample exposure of the wide-spread error that Locke was the chief of the so-called sensational school, we need spend no time in inquiring whether Locke did or did not teach

that all knowledge was referable to sensation. The passages which contradict the vulgar error respecting Locke's doctrine are numerous and decisive; Dugald Stewart has selected several; but perhaps the one we have quoted above will be considered sufficiently explicit. Reflection, he says, "though it be not sense," may yet analogically be considered as an internal sense.

To prevent all misconception, however, we will as a decisive example refer to his proof of the existence of God, which he sums up by saying, "It is plain to me that we have a more certain knowledge of the existence of a God than of anything our senses have not immediately discovered to us. Nay, I presume I may say that we may more certainly know that there is a God, than that there is anything else without us."—(Book IV. ch. x.) Locke made the senses the source of all our *sensuous* knowledge; our *ideal* knowledge (so to speak) comes from Reflection. ✓

Historians have not accorded due praise to Locke for the important advance he made towards a solution of the great question on the origin of knowledge. While Leibnitz has been lauded to the skies for having expressed Locke's doctrine in an epigram, Locke has not only been robbed of his due, but has been sacrificed to his rival. What is the usual statement of their opinions? It is this: "Locke reduced all our knowledge to Sensation; Leibnitz came and accepted the old adage of *nihil est in intellectu quod non prius fuerit in sensu*, but he accepted it as only half the truth; and therefore added *nisi ipse intellectus*." Now, firstly, Locke did not accept the adage as the whole truth; he said that Reflection was a second source of ideas. /.

2. Secondly, Dugald Stewart has remarked that the addition which Leibnitz made when he said there is nothing in the intellect which was not previously in the sense, *except the intellect itself*, expresses no more than the doctrine of Locke, who says, "External objects furnish the mind with ideas of sensible qualities; and the mind furnishes the understanding with the ideas of its own operations."

3. Thirdly, although the phrase is epigrammatic, and thereby has had such success in the world, as epigrams usually have, it will not bear scrutiny:—few epigrams will. Except as a verbal jingle, how trivial is the expression—the intellect *in* the intellect! Suppose a man to say, "I have no money in my purse, except my purse itself"—he would scarcely be less absurd. For when the schoolmen said, "Nothing was in the intellect which was not previously in the sense," they did not mean that the intellect was the same as the sense; they meant that the intellect was furnished with no ideas, notions, or conceptions, which had not been furnished them by sense; they meant that the senses were the inlets to the soul.

Dr. Whewell, as may be anticipated, approves of the epigram, and alluding to Mr. Sharpe's objection to it, viz., that we cannot say the intellect is *in* the intellect, he says, "This remark is obviously frivolous; for the faculties of the understanding (which are what the argument against the Sensational School requires us to reserve) may be said to be in the understanding with as much justice as we may assert that there are in it the impressions derived from sense." We do not see the frivolity. Moreover the "faculties" of the understanding are not "*all* that must be reserved for the argument against the Sensational School"

(if the Lockists be meant, and to them only did Leibnitz address himself), for the simple reason that the faculties *never* were denied.* Foolish opponents have attributed such a notion to Locke's school; no member of that school ever proposed it. The question never was—*Have we an Understanding, and has that Understanding certain Faculties?* No; the question simply was—*What is the origin of our Ideas: are they partly innate and partly acquired, or are they wholly acquired, and if so, is Sense the sole inlet?* To this plain question some replied plainly, "Sense is the origin of all our ideas,"—Locke replied, "Sense and Reflection are the sources of all our ideas." Leibnitz replied, "There is nothing in the intellect which was not previously in the sense; except the intellect itself." Which latter remark is altogether *beside* the question. And yet how many pages of laudatory declamation has this remark called forth; pages in which Locke is cast into the background, and charged with having overlooked the important fact—that man has an intellect as well as senses. This notion once started continued its triumphant course. Critics are like sheep, who always follow the bell-wether. What one asserts boldly, another echoes boldly; a third transmits it to a fourth, and the assertion becomes consolidated into a traditional judgment. Some one more serious or more

* Locke often speaks of the operations of the mind as proceeding from powers intrinsic and proper to itself. He says also: "Thus the first *capacity* of human intellect is, that the mind is fitted to receive the impressions made on it; either through the senses by outward objects, or *by its own operations when it reflects on them.*"—*Essays*, book ii. ch. i. § 24.

independent than the rest looks into the matter; sees an error, exposes it; but tradition rolls on its unimpeded course.

We do not expect to shake the traditional error respecting Locke; we were bound, however, to signalize it. Locke does *not* derive all our knowledge from sensation; Leibnitz has *not* made any addition by his too famous *nisi ipse intellectus*.

By Sensation Locke understands the simple operation of external objects through the senses. The mind is herein wholly passive. The senses, therefore, may be said to furnish the mind with one portion of its *materials*.

By Reflection he understands that internal sense by means of which the mind observes its own operations. This furnishes the second and last portion of the materials out of which the mind frames knowledge.

"If it shall be demanded," he says, "when a man begins to have any ideas; I think the true answer is, when he first has any sensation. For since there appear not to be any ideas in the mind before the senses have conveyed any in, I conceive that ideas in the understanding are coeval with sensation."

This is making a decisive stand against the upholders of innate ideas; but it is a very rude and incomplete view.

Deeply considered, not only are ideas not coeval with sensations, but sensations themselves are not coeval with the operation of external objects on our organs. Our senses have to be *educated*, *i. e.*, to be drawn out, developed. We have to learn to see, to hear, and to touch. Light strikes on the retina, waves of air pulsate on the tympanum: but

these are as yet neither sight nor hearing: they are only the rudiments, they are the preparations for sight and hearing. Many hundred repetitions are necessary before what we call a Sensation (*i. e.*, a distinct feeling corresponding to that which the object will always produce upon the developed sense) can be produced. Many Sensations are necessary to produce a perception: a perception is a cluster of sensations. On the educated Sense objects act so as instantaneously to produce what we call their sensations; on the uneducated Sense they act only so as to produce a vague impression, which becomes more and more definite by repetition.*

Plato finely compares the soul to a book, of which the senses are the scribes.† Accepting this comparison, we must carry it out: writing is only possible after a series of tentatives; the hand must practise before it can steady itself sufficiently to trace letters; so also must the senses learn by repetition to trace intelligible figures on the *tabula rasa* of the mind.

Locke continues his account of the origin of all our knowledge thus: “In time the mind comes to reflect on its own operations about the ideas got by sensation, and thereby stores itself with a new set of ideas, which I call ideas of reflection. These are the impressions which are made on our senses by outward objects that are extrinsical to the mind, and its own operations proceeding from powers intrinsical and proper to itself; which when re-

* See this treated in a masterly manner in Beneke's ‘*Lehrbuch der Psychologie*.’

† Philebus, p. 192. Plato's words are not given in the text, but the sense is.

flected on by itself, becoming also objects of its contemplation, are, as I have said, the original of all knowledge. Thus, the first capacity of the human intellect is that the mind is fitted to receive the impressions made on it; either through the senses by outward objects; or by its own operations when it reflects on them. This is the first step that a man makes towards the discovery of and the groundwork whereon to build all those notions which ever he shall have naturally in this world. All those sublime thoughts which tower above the clouds and reach as high as heaven itself, take their rise and footing here: in all that good extent wherein the mind wanders, in those remote speculations it may seem to be elevated with, it stirs not one jot beyond those ideas which sense or reflection have offered for its contemplation."

The close of this passage is an answer to the ontologists; not one, however, which they will accept. They deny that sensation and reflection are the only sources of materials. But we will continue to hear Locke:—

"When the understanding is once stored with these simple ideas, it has the power to repeat, compare, and unite them, even to an almost infinite variety, and so can make at pleasure new complex ideas.* But it is not in the power of the most exalted wit, or enlarged understanding, by any quickness or variety of thought, to invent or frame one new simple idea in the mind not taken in by the ways aforementioned."

This is very explicit—and, we believe, very true. If true, what becomes of Philosophy?

* What does Dr. Whewell say to this? Is there any denial of the 'faculties' here?

CHAPTER VI.

ELEMENTS OF IDEALISM AND SCEPTICISM IN
LOCKE.

THE passage last quoted naturally leads us to consider Locke's position in the great debate carried on respecting our knowledge of things *per se*.

Can we know things as they are? Descartes and his followers suppose that we can: their criterion is the clearness and distinctness of ideas.

Locke admirably said, "*Distinct* ideas of the several sorts of bodies that fall under the examination of our senses, perhaps we may have; but *adequate* ideas I suspect we have not of any one amongst them."

Our ideas, however clear, are never adequate; they are *subjective*. But Locke only went half way towards the conception of knowledge as *purely* subjective. He did not think that all our ideas were images, *copies* of external objects; but he expressly taught that our ideas of what he calls *primary qualities*, are *resemblances* of what really exist in bodies; adding, that "the ideas produced in us by *secondary* qualities have no resemblance of them at all. There is nothing like our ideas existing in the bodies themselves. They are, in the bodies we denominate from them, only a *power to produce those sensations in us*."

It is remarkable that the last sentence did not

lead him to the conclusion that *all* the qualities which we perceive in bodies are but the powers to produce sensations in us; and that it is we who attribute to the causes of these sensations *a form analogous to their effects*. He himself warned us "that so we may not think (as perhaps usually is done) that they (ideas) are exactly the *images and resemblances of something inherent in the subject*; most of those of sensation being in the mind *no more the likeness of something existing without us than the names that stand for them are likenesses of our ideas*, which yet upon hearing they are apt to excite in us." And elsewhere, "it being no more impossible to conceive that God should annex such ideas to such motions (*i. e.* the motions of objects affecting the senses) *with which they have no similitude* than that he should annex the idea of pain to the motion of a piece of steel dividing our flesh, with which that idea hath no resemblance."

From these passages it will be seen how clearly Locke understood the subjective nature of one portion of our knowledge. His not carrying out the application of his principles to primary qualities, was owing perhaps to carelessness, or else to inveterate association having too firmly established the contrary in his mind.

Every one is willing to admit that colour, light, heat, perfume, taste, &c., are not qualities in the bodies which produce in us those effects; they are simply conditions of our sensibility when placed in certain relations with certain bodies.

But few are willing to admit—indeed only philosophers (accustomed as they are to undo their constant associations) can conceive the primary qualities, viz., extension, solidity, motion, and

number, to be otherwise than real qualities of bodies—*copies* of which are impressed upon us by the relation in which we stand to the bodies.

And yet these are no less subjective than the former. They do not belong at all to bodies, except as powers to produce in us the sensations. They are demonstrably as much the effects produced in us by objects, as the secondary qualities are; and the latter every one admits to be *effects*, and not *copies*.

Wherein lies the difference? wherein the difficulty of conceiving primary qualities not to belong to bodies?

In this: the primary qualities are the *invariable* conditions of sensation. The secondary qualities are the *variable* conditions. We can have no perception of a body that is not extended, that is not solid (or the reverse), that is not simple or complex (number), that is not in motion or rest. These are *invariable* conditions. But this body is not necessarily of any particular colour, taste, scent, heat, or smoothness; it may be colourless, tasteless, scentless. These secondary qualities are all *variable*.

Consequently, the one set being invariable, have occasioned indissoluble associations in our minds, so that it is not only impossible for us to imagine a body, without at the same time imagining it as endowed with these primary qualities; but also we are irresistibly led to believe that the bodies we perceive do certainly possess those qualities quite independently of us. Hence it has been said that the Creator himself could not make a body without extension: for such a body is impossible. The phrase should be, "such a body it is impossible for

us to conceive." But our indissoluble associations are no standards of reality.

That *we* cannot conceive body without extension is true; but that, because we cannot conceive it, the contrary must be false, is preposterous. All our assertion in this matter can amount to is that knowledge must be subordinate to the conditions of our nature. These conditions are not conditions of things, but of our organizations.

If we had been so constituted as that all bodies should affect us with a degree of warmth, we should have been irresistibly led to conclude that warmth was a quality inherent in body; but because warmth varies with different bodies and at different times, there is no indissoluble association formed. And so of the rest.

To return to Locke: he has very well stated the nature of our knowledge of external things, though he excepts primary qualities. "It is evident," he says, "that the bulk, figure, and motion of several bodies about us, produce in us several sensations, as of colours, sounds, tastes, smells, pleasure, and pain, &c. These mechanical affections of bodies *having no affinity at all with those ideas they produce in us* (there being no conceivable connexion between any impulse of any sort of body, and any perception of a colour or smell which we find in our minds) *we can have no distinct knowledge of such operations beyond our experience*; and can reason about them no otherwise than as the effects produced by an infinitely wise Agent, which perfectly surpass our comprehensions."

He shortly after says, "The things that, as far as our observation reaches, we constantly find to

proceed regularly, we may conclude do act by a law set them; but yet by a law that we know not: whereby, though causes work steadily, and effects constantly flow from them, *yet their connexions and dependences being not discoverable in our ideas, we can have but an experimental knowledge of them.*" Here we have Hume's doctrine of Causation anticipated.

To prove the subjective nature of our knowledge is but one step towards the great question. The second step, which it is vulgarly supposed was only taken by Berkeley and Hume, was also taken by Locke. Hear him:—

"Since the mind in all its thoughts and reasonings hath no other immediate object but its own ideas, which it alone does or can contemplate, it is evident that our knowledge is only conversant about them.

"Knowledge, then, seems to me nothing but the perception of the connexion and agreement, or disagreement and repugnancy of any one of our ideas."

This is the great stronghold of Idealism and Scepticism. Locke foresaw the use which would be made of it; and he stated the problem with remarkable precision:—

"It is evident that the mind knows not things immediately, but only by the intervention of ideas it has of them. Our knowledge, therefore, is real, only so far as there is a conformity between our ideas and the reality of things.

"But what shall be here the criterion? How shall the mind, when it perceives nothing but its own ideas, know that they agree with the things themselves?"

Thus has he stated the problem which was solved by Idealism on the one hand and by Scepticism on the other. Let us see how he will solve it.

There are two sorts of ideas, he says, the simple and the complex; or, to use more modern language, perceptions and conceptions. The first "must necessarily be the product of things operating on the mind in a natural way, and producing those perceptions which by the wisdom and will of our Maker they are ordained and adapted to. From whence it follows that simple ideas are not fictions of our fancies, but the natural and regular productions of things without us *really operating upon us*; and so carry with them *all the conformity which is intended*, or which *our state requires*: for they represent *things to us under those appearances which they are fitted to produce in us*."

This leaves the question of Idealism unanswered, though it cuts the Gordian knot of Scepticism. It is a plain and explicit avowal of the subjectivity of our knowledge; of the impossibility of our ever transcending the sphere of our consciousness and penetrating into the essences of things.

Complex ideas being made out of simple ideas, we need not examine their pretensions to infallibility.

All human certainty is, therefore, only a relative certainty. Ideas may be true for us, without being at all true when considered absolutely. Such is Locke's position. He stands upon a ledge of rock between two yawning abysses. He will stand there, and proceed no farther. Why should he move when he knows that a single step will precipitate him into some fathomless abyss? No;

he is content with his ledge of rock. "The notice we have by our senses," he says, "of the existence of things without us, though it be not altogether so certain as our intuitive knowledge or the deductions of our reason, employed about the clear, abstract ideas of our own minds; yet it is an assurance that deserves the name of knowledge. If we persuade ourselves that our faculties act and inform us right concerning the existence of those objects that affect them, it cannot pass for an ill-grounded confidence; for I think nobody can in earnest be so sceptical as to be uncertain of the existence of those things which he sees and feels. At least he that can doubt so far (whatever he may have with his own thoughts) will never have any controversy with me, since he can never be sure I say anything contrary to his own opinions. As to myself, I think God has given me assurance enough as to the existence of things without me; since by their different application I can produce in myself both pleasure and pain, which is one great concernment of my present state. We cannot act by anything but our faculties; nor talk of knowledge but by the help of those faculties which are fitted to apprehend even what knowledge is."

Again, anticipating the objection that "all we see and hear, feel and taste, think and do during our whole being is but the series and deluding appearances of a long dream, and therefore our knowledge of anything be questioned; I must desire him to consider that if all be a dream, then he doth but dream that makes the question; and so it is not much matter that a waking man should answer him. But yet if he pleases, he may dream that I make him this answer, That the *certainty* of

things existing in *rerum naturâ*, when we have the testimony of our senses for it, is not only *as great as our frame can attain to, but as our condition needs.*" This leaves Idealism unanswered; but it pronounces Scepticism to be frivolous: "for our faculties," he continues, "being *not suited to the full extent of being*, nor to a perfect, clear, comprehensive knowledge of things free from all doubt and scruple, but to the preservation of us, in whom they are, and accommodated to the use of life; they serve to our purpose well enough, if they will but give us certain notice of those things which are convenient or inconvenient to us."

That this is very good common sense every one will admit. But it is no *answer* to Scepticism. Hume, as we shall see hereafter, proclaimed the very same opinions: but the difference between him and Locke was, that he knew such opinions had no influence whatever upon the *philosophical* question, but simply upon the practical affairs of life; whereas Locke, contenting himself with the practical, disdained to answer the philosophical question.*

We may sum up the contents of this chapter by saying that Locke distinctly enough foresaw the Idealistic and Sceptical arguments which might be drawn from his principles. He did not draw them, because he thought them frivolous. Aware that all human certitude could only be relative certitude—that human knowledge could never embrace the nature of things, but only the nature of their

* Dr. Reid conjectures that "Locke had a glimpse of the system which Berkeley afterwards advanced, though he thought proper to suppress it within his own breast." No, not to suppress, but to disdain it.

effects on us—he was content with that amount of truth, and “sat down in quiet ignorance of those things which are beyond the reach of our capacities.”

The grand aim of the ‘Essay’ was to prove that all knowledge is founded on Experience. That proved, he was quite aware that Experience never could be other than relative—it could only be *our* Experience of things; and our Experience could be no *absolute* standard; it could only be a standard for us.

Locke gave up Philosophy as hopeless; he was a sceptic, then?

In one sense, he was; but as the word sceptic is invested with so many indissoluble associations, which would distort our meaning, we prefer saying that Locke was a thinker of the *Positive* School.*

* Compare our ‘Introduction,’ vol. i. pp. 15–20, for an explanation of the term.

CHAPTER VII.

LOCKE'S CRITICS.

WE cannot leave the great Englishman without at least slightly adverting to the tone adopted by his critics. This tone has been anything but considerate. The sincerest and least dogmatic of thinkers has met with insincere and shallow criticism.

That men should misrepresent Spinoza, Hobbes, or Hume, is intelligible enough; men are frightened, and in their terror exaggerate and distort the object. That they should misrepresent Kant, Fichte, or Hegel, is also intelligible; the remoteness of the speculations and the difficulty of the language are sufficient excuses. But that they should misrepresent Locke is wholly inexcusable. He is neither an audacious speculator, nor a cloudy writer. His fault is that he spoke plainly and honestly. He sought the truth; he did not wish to mystify any one. He endeavoured to explain the *Chemistry* of the Mind (if the metaphor be permissible), renouncing the vague futile dreams of *Alchemy*. All those men who still seek to penetrate impenetrable mysteries, and who refuse to acknowledge the limits of man's intelligence, treat Locke with the same superb disdain as the ambitious alchemists treated the early chemists. The tone in

which modern Frenchmen and Germans speak of Locke is painful ; the tone in which many Englishmen speak of him is disgraceful. To point out any error is honourable ; but to accuse him of errors which are not to be found in his work, to interpret his language according to your views, and then accuse him of inconsistency and superficiality ; to assume that his principles would "lead to Atheism" or elsewhere, and on that assumption to condemn them ; to speak of him with superciliousness, as if he were some respectable but short-sighted gentleman dabbling with philosophy, and not one of the great benefactors of mankind, deserves the severest reprobation.

There is no excuse for not understanding Locke. If his language be occasionally loose and wavering, his meaning is always to be gathered from the context. He had not the lucidity of Descartes or Hobbes ; but he was most anxious to make himself intelligible, and to this end he varied his expressions, and stated his meaning in a variety of forms. He must not be taken literally. No single passage is to be relied on, unless it be also borne out by the whole tenor of his speculations. Any person merely "dipping into" the Essay, will find passages which seem very contradictory ; any person carefully reading it through will find all clear and coherent. But Locke is not read through : hence misconception.

The most considerable of Locke's modern critics is Victor Cousin. He has undertaken an examination and refutation of all Locke's important positions. The eminence of his name and the popular style of his lectures have given great importance to his criticism ; but if we are to speak out our

opinion frankly, we must consider this criticism very unfair, and extremely shallow. There may be temerity in this declaration; yet such of our readers as do not suffer themselves to be imposed upon by reputations however showy, but are content to think conscientiously for themselves, will see that the present is not a fit occasion for idle courtesies.

We cannot here examine his examination: a volume would not suffice to expose all his errors. Let one example of his unfairness and one of his shallowness suffice.

Speaking of the principle of reflection, he says, "In the first place, remark that Locke here evidently confounds reflection with consciousness. Reflection, strictly speaking, is doubtless a faculty analogous to consciousness, but distinct from it, and which more particularly belongs to philosophers, whereas consciousness belongs to every man."

We answer that in the first place, so far from its being evident that Locke confounds reflection with consciousness, his whole Essay proves the contrary. In the second place, M. Cousin, using the word reflection in a peculiar sense (*viz.*, as tantamount to speculation), forces that sense upon Locke, and then exclaims about contradiction! If M. Cousin had interpreted Locke fairly, he could never have thus "caught him on the hip."

It is quite true that in the passage quoted by M. Cousin, the faculty of reflection is limited to the operations of the mind; but, as we said, to pin Locke down to any one passage is unfair; and his whole Essay proves, in spite of some ill-worded definitions, that by reflection he meant very much

what is usually meant by it, viz., the activity of the mind combining the materials it receives through sense, and being thus a second source of ideas.

This leads us to the second example. M. Cousin wishing to prove, against Locke, that we have ideas from some other source besides sensation and reflection, instances the idea of space, and examines how it was possible to obtain that idea through sensation and reflection. That the idea of pure space could not have been obtained through the senses, he seems to think is satisfactorily proved by proving that the idea has nothing sensuous in it; that it could not have been obtained through reflection, because it has nothing to do with the operations of our understanding, is equally evident to him. Hence, as both sources fail, he pronounces Locke's account of the origin of our knowledge "incomplete and vicious."

This argument, which extends to several pages, is deemed by M. Cousin triumphant. Locke, indeed, says that "we get the idea of space both by our sight and touch." Any honest inquirer would never quibble upon this—would never suppose Locke meant to say that space is a *sensation*. He would understand that Locke meant to say, "the idea of space is an abstraction: the primary materials are obtained through our touch and sight." Locke did not anticipate any quibbling objection, so did not guard against it; but in his explanation of our idea of substance he has given an analogous case; and curiously enough his antagonists have frequently objected that the idea of substance never could have been obtained through sense! It has been thought an irresistible argument against

Locke's theory. The very fact that we have an idea of substance is supposed to be sufficient proof of some other source of knowledge than sensation and reflection—an example of how carelessly Locke has been read. He expressly tells us, in more places than one, that the idea of substance (and by idea he does not here mean *image*, but a *thought*) is an inference grounded upon our experience of external things. True it is that we perceive nothing but phenomena, but our minds are so constituted that we are forced to suppose these phenomena have substances lying underneath them.

“If any one will examine himself,” he says, “concerning his notion of pure substance in general, he will find he has no other idea of it at all, but only a supposition of he knows not what support of such qualities which are capable of producing simple ideas in us, which qualities are commonly called accidents. If any one should be asked what is the subject wherein colour or weight inheres, he would have nothing to say but the solid extended parts; and if he were demanded what is it that solidity and extension inhere in, he would not be in a much better case than the Indian who, saying that the world was supported by a great elephant, was asked what the elephant rested on, to which his answer was, A great tortoise; but being again pressed to know what gave support to the great broad-backed tortoise, replied, Something, he knew not what.”

The same course of argument will apply to space—an idea suggested by *place*, which is surely one derived from the senses; but M. Cousin declaims away at a great rate, and brings forward many arguments and illustrations, all utterly

trivial, to show that the idea of space could never have been a sensation. A little more attention in reading the author he attacks would have saved him all this trouble. Locke never for an instant supposed that the idea of space, or any ideas of that class, could have been a sensation: on the fact that it could not, he grounds his position that the idea is vague, and is a mere "supposition."

The German critics we may pass over in silence. The whole tenor of their speculations unfits them for judging Locke. But let us hear an Englishman—a Cambridge professor, and a philosophical historian:—"We need not spend much time in pointing out the inconsistencies into which Locke fell," says Dr. Whewell, "as all must fall into inconsistencies who recognise no source of knowledge except the senses."

Let us remark, in the first place, that it is surely a very cavalier manner of writing history thus to pass over so great a man as Locke, whose influence has been so general and lasting, and whose "inconsistencies" it behoved Dr. Whewell, more than most men, to refute, inasmuch as, otherwise, they refute his whole philosophy. Secondly, it is a misrepresentation to talk of Locke's having recognised "no source of knowledge except the senses." He knows that Locke did recognise another source: but the suppression of 'Reflection' gives him an easy victory; so he suppresses it, and triumphantly proceeds:—

"Thus he maintains that our idea of space is derived from the senses of sight and touch—our idea of solidity from the touch alone. Our notion of substance is an unknown support of unknown qualities, and is illustrated by the Indian fable of

the tortoise which supports the elephant which supports the world."

As to space, we have already considered that in answering M. Cousin. As to solidity, if the idea of that be not derived from the sensation, from whence is it derived? And as to substance, we must here again notice a misrepresentation of Locke, who does not define it as "an unknown support of unknown qualities," but as an unknown support of *known* qualities: from our knowledge of the qualities we infer the existence of some substratum in which they inhere. We are, with respect to substance, somewhat in the condition of a blind man, who, whenever he moved in a certain direction, should receive a blow from some revolving wheel. Although unable to see the wheel, and so understand the cause of the pain he received, he would not hesitate to attribute that cause to something without him. All he could ever know, unassisted, would be the fact of his being struck when he moved in a certain direction; he could have no other knowledge of the wheel, yet he would be quite certain that there was something besides his pain, and that unknown something would stand in a somewhat similar relation to him as the unknown support of known accidents of bodies does to us. This is Locke's meaning.

"Our notion of power or cause," continues the historian, "is in like manner got from the senses; and yet, though these ideas are thus mere fragments of our experience, Locke does not hesitate to ascribe to them necessity and universality when they occur in propositions. Thus he maintains the necessary truth of geometrical properties: he asserts that the resistance arising from solidity is

absolutely insurmountable; he conceives that nothing short of Omnipotence can annihilate a particle of matter; and he has no misgivings in arguing upon the axiom that everything must have a cause. He does not perceive that upon his own account of the origin of our knowledge, we can have no right to make any of these assertions. If our knowledge of the truths which concern the external world were wholly derived from experience, all that we could venture to say would be, that geometrical properties of figures are true *as far as we have tried them*; that we have seen *no example* of a solid body being reduced to occupy less space by pressure, or of a material substance annihilated by natural means; and that, *wherever we have examined*, we have found that every change has had a cause."

In another, such a passage might cause some surprise. In Dr. Whewell, it is only one among innumerable instances of his want of acquaintance with Locke. The fallacy on which his argument rests, we shall examine fully when we come to treat of Kant.* Meanwhile let the following exhibit his misconception of Locke, who certainly did not hesitate to ascribe necessity and universality to certain ideas when they "occur in propositions," but who very clearly explained the nature of this necessity in a masterly passage:—

"There is one sort of propositions concerning the existence of anything answerable to such an idea; as having the idea of an elephant, phoenix, motion, or angle, in my mind, the first and natural inquiry is, whether such a thing does anywhere exist? And this knowledge is only of particulars.

* See vol. iv. epoch viii. chap. v.

No existence of anything without us, except God, can certainly be known farther than our senses inform us.

“ There is another sort of propositions, wherein is expressed the agreement or disagreement of our abstract ideas and their dependence on one another. *Such propositions may be universal and certain.* So, having the idea of God and of myself, of fear and obedience, I cannot but be sure that God is to be feared and obeyed by me: and this proposition will be certain concerning man in general, *if I have made an abstract idea of such species whereof I am one particular.* But yet this proposition, how certain soever, that men ought to fear and obey God, proves not to me the existence of men in the world, but *will be true of all such creatures wherever they do exist*: which certainty of such general propositions depends on the agreement or disagreement to be discovered in those abstract ideas. In the former case our knowledge is the consequence of the existence of things producing ideas in our minds by our senses; in the latter, knowledge is the consequence of the ideas (be they what they will) that are in our minds producing their general certain propositions.

“ Many of these are called *æternæ veritates*; and all of them indeed are so; not from being written in the minds of all men, or that they were any of them propositions in any one's mind till he, having got the abstract ideas, joined or separated them by affirmation or negation. But wheresoever we can suppose such a creature as man is, endowed with such faculties, and thereby furnished with such ideas as we have, we must conclude he must needs, when he applies his thoughts to the consideration

of his ideas, know the truth of certain propositions that will arise from the agreement or disagreement which he will perceive in his own ideas. Such propositions, therefore, are called eternal truths, not because they are eternal propositions actually formed and antecedent to the understanding that makes them; nor because they are imprinted on the mind from any patterns that are anywhere of them out of the mind and existed before; but because being once made about abstract ideas so as to be true, they will, whenever they can be supposed to be made again at any time by a mind having those ideas, always actually be true."—(Book IV. ch. xi. § 13, 14.)

This passage is sufficient to exonerate him from the charge of inconsistency; sufficient also, we believe, to show the futility of Dr. Whewell's own account of the necessity of certain truths.

The foregoing are samples of the style in which the great master of Psychology is spoken of by his modern critics. Let them be sufficient warning to the reader of what he is to expect from the partisans of the reaction against Locke and his followers; and stimulate him to the careful study of that author who "professes no more than to lay down, candidly and freely, his own conjectures concerning a subject lying somewhat in the dark, without any other design than an unbiassed inquiry after truth."

CHAPTER VIII.

LEIBNITZ.

LEIBNITZ was the first and last of Locke's great critics. He had studied the 'Essay on Human Understanding,' though he could not accept its principles. His arguments have formed the staple of objection against Locke; and from him they come with peculiar force, because they are parts of his system.

Leibnitz is a great name in philosophy and mathematics; but the nature of this work forbids our entering into any detailed examination of his claims. All that can here be done is to indicate the line of opposition which he took with respect to Locke's theory of the origin of Knowledge.

At first he answered Locke in a few paragraphs of a somewhat supercilious tone. He evidently looked upon the 'Essay' as not destined to achieve any influential reputation.* This opinion he lived to alter; and in his '*Nouveaux Essais sur l'Entendement Humain*,' he brought all his forces to bear upon the subject; he grappled with the 'Essay,' and disputed the ground with it inch by inch. This remarkable work was not published till many years after his death, and is not included in M. Duten's edition. Dugald Stewart was not

* See 'Réflexions sur l'Essai de M. Locke,' in the 'Recueil' of Desmaizeaux, vol. ii.

aware of its existence; and this fact will explain a passage in his 'Dissertation,' where he says Leibnitz always speaks coldly of Locke's 'Essay.' Leibnitz does so in his earlier works; but in the 'New Essays' he treats his great adversary with due respect; and in the Preface, speaks of him with eulogy.

The reader has heard Dr. Whewell speak of Locke, and can have appreciated his tone; let him now compare the language of the great Leibnitz, speaking of his rival:

"The 'Essay concerning Human Understanding,' written by an illustrious Englishman, being one of the finest and most esteemed works of our time, I have resolved to make some comments on it. . . . Thus I shall procure a favourable introduction for my thoughts by placing them in such good company. . . . It is true that I am often of a different opinion; but so far from detracting on that account from the merit of this celebrated writer, that I do him justice in making known in what and wherefore I differ from him, when I judge it necessary to prevent his authority from prevailing over reason on some important points. In fact, although the author of the 'Essay' says a thousand things which I must applaud, yet our systems greatly differ. His has greater affinity to that of Aristotle—mine, to that of Plato."

This is the spirit in which the Homeric heroes regard their adversaries; an interchange of admiration for each other's prowess does not deaden one of their blows, but it makes the combat more dignified.

Leibnitz belonged to the Cartesians; but he also mingled with the doctrines of Descartes certain

ideas which he had gathered from his commerce with antiquity. Plato and Democritus especially influenced him. To a mind thus furnished the doctrines of Locke must needs have been unwelcome; indeed they could not expect to gain admission. Moreover, as F. Schlegel well observed, every man is born either a Platonist or an Aristotelian.* Leibnitz and Locke were examples of this antagonism: ["Our differences," says Leibnitz, "are important. The question between us is whether the soul in itself is entirely empty, like tablets upon which nothing has been written (*tabula rasa*) according to Aristotle and the author of the 'Essay;' and whether all that is there traced comes wholly from the senses and experience; or whether the soul originally contains the principles of several notions and doctrines, which the external objects only awaken on occasions, as I believe with Plato."]

The nature of the problem is well stated here; and Leibnitz sides with Plato in his solution of it. The main arguments by which he supports his view are those so often since repeated of the Universality and Necessity of certain truths, and of the incapacity of experience to furnish us with anything beyond a knowledge of individual cares.

"For if any event can be foreseen before it has been tried, it is manifest that *we* contribute something for our own parts." *Ergo*, mere experience, it is argued, does *not* constitute all our knowledge.

"The senses, although *necessary* for all actual knowledge, are not sufficient to *give* us all of it,

* Coleridge used to pass off this aphorism as his own. It is to be found, however, in Schlegel's 'Geschichte der Literatur.'

since the senses never can give but examples, that is to say particular or individual truths. But all the examples which confirm a general truth, however numerous, do not suffice to establish the universal necessity of that truth, for it does not follow that that which has once occurred will always occur in the same way."

Leibnitz continues: "Whence it appears that necessary truths, such as we find in mathematics, and particularly in arithmetic and geometry, must have principles of which the proof does not depend upon examples, nor consequently upon the senses, although without the senses one would never have thought of them. So also logic, metaphysics, and morals are full of such truths, and consequently their proofs can only come from those internal principles which are called *innate*."

Locke would perfectly have agreed with these premises, but the conclusion he would rightly have rejected. That the senses alone could not furnish us with any general truth he taught as expressly as Leibnitz; but he did not build his theory upon the senses alone.

Leibnitz, however, seems to have been misled by Locke's language in the first definition of Reflection; for he says, "Perhaps the opinions of our able author are not so far from mine as they appear to be. For after having employed the whole of his first book against innate knowledge taken in a certain sense, he acknowledges in the beginning of the second that there are ideas which do not originate from the senses, but arise from Reflection. Now reflection is nothing but attention to that which passes within us; and *the senses do not convey to us what we already possess within ourselves.*"

Can it then be denied that there is much innate in the mind?"

The passage in italics is a curious instance of how the mind, preoccupied with its own opinions, sees them reflected in the expressions of others.

Leibnitz here assumes the very point at issue; assumes that the mind has innate ideas which the senses cannot convey to it; and this assumption he supposes to be contained in Locke's words. Locke taught precisely the contrary.

"The mind is itself innate," continues Leibnitz (to which we reiterate our objection: innate in *what*? In itself? or in us? To say that it is innate in itself is a quibble; that it is innate in *us*, is a displacement of the question: no one ever doubted that the mind of man was born in man—born with man; the question is: Are there any ideas born *with* the mind, or are all ideas acquired *by* the mind?) "The mind is itself innate, and there are included in it substance, duration, change, action, perception, pleasure, and a thousand other objects of our intellectual ideas. . . . I have used the comparison of a block of marble which has certain veins in it rather than a plain piece of marble such as the philosophers call *tabula rasa*; because if the soul resembled tablets unwritten on, truths would be in us like the figure of Hercules is in the block of marble, when that marble may receive indifferently one figure or another. But if there are veins in the marble which mark the figure of Hercules rather than any other figure, that marble would be more determinate, and the figure of Hercules would in some way be innate, although labour would be necessary to discover the veins, and to free them from their envelope-

ment of marble. Thus are ideas and truths innate in us."

This is an ingenious statement of the theory: unfortunately for it, the very existence of these veins in the marble is an assumption, and an assumption not made for the facilitating of inquiry, but simply for the proof of the theory assumed: it is an hypothesis framed for the sake of explaining—what? the hypothesis itself! Ideas are first assumed to be innate; to prove this assumption, another assumption—the existence of innate ideas—is made; and the theory is complete.

The real force of Leibnitz' theory lies in his distinction between contingent and accessary truths, and in his position that experience alone could never furnish us with necessary truths. The examination of this we must delay till we come to Kant.

A brief view of the celebrated scheme of *Pre-established Harmony* will be all that is necessary to complete what we have here to say of Leibnitz.

It was in those days an axiom universally admitted that "Like could only act upon Like." The question then arose: how does body act upon mind; how does mind act upon body? The two were utterly *unlike*: how could they act upon each other? In other words: how is Perception possible?

All the ordinary explanations of Perception were miserable failures. If the mind perceived copies of things, how are these copies transmitted? Effluvia, eidola, images, motions in spirits, &c., were not only hypotheses, but hypotheses which bore no examination: they did not get rid of the difficulty of two unlike substances acting upon each other.

Leibnitz therefore framed this hypothesis :—The human mind and the human body are two *independent but corresponding* machines. They are so adjusted that, like two unconnected clocks constructed so as that at the same instant one should *strike* the hour and the other *point* it. “I cannot help coming to this notion,” he says, “that God created the soul in such a manner at first, that it should *represent* within itself all the simultaneous changes in the body; and that he has made the body also in such a manner as that it must of itself do what the soul wills: so that the laws which make the thoughts of the soul follow each other in regular succession, *must* produce *images* which shall be coincident with the impressions made by external objects upon our organs of sense; while the laws by which the motions of the body follow each other are likewise so coincident with the thoughts of the soul as to give to our *volitions* and *actions* the very same appearance as if the latter were really the natural and the necessary consequence of the former.”

This hypothesis has been much ridiculed by those unaware of the difficulties it was framed to explain. It was so repugnant, however, to all ordinary views, that it gained few, if any, adherents.

The best edition of Leibnitz's works is that by Erdmann—*Leibnitii Opera Philosophica*: Berlin, 1839. The *Nouveaux Essais* are there for the second time published (the first was in Raspe's edition, Leipsic, 1765); and they have been since republished in a cheap and convenient form by M. Jacques: Paris, 1845.

CHAPTER IX.

SUMMARY OF THE THIRD EPOCH.

THE result of the speculations we have been considering—speculations begun by Gassendi and Hobbes, and further developed by Locke—was to settle, for a long while, the dispute respecting Experience, and to give therefore a new direction to inquiry.

It was considered as established that we could have no knowledge not derived from experience :

That experience was of two kinds, viz., of external objects and of internal operations ; therefore there were two distinct sources—sensation and reflection :

That all knowledge could only consist in the agreement or disagreement of our ideas :

Finally, that we could never know things in themselves, but only things as they affect us ; in other words, we could only know our ideas.

To this had Locke brought philosophy, which, rightly interpreted, was a denial of all philosophy—a demonstration of its impossibility ; but this interpretation he did not put upon his doctrines. That remained for Hume. Locke's system produced three distinct systems : Berkeley's idealism, Hume's scepticism, and Condillac's sensualism. These it is now our task to exhibit historically.

ERRATA IN VOLS. I. AND II.

VOL. I.

- Page 17, line 2, *for* 'attraction is the square,' *read* 'attraction is inversely as the square,' &c.
Page 74, line 5, *read* 'anthropomorphism.'
Page 77, line 13, *dele* 'Italian.'
Page 96, last line, *for* 'anything,' *read* 'any novelty.'
Page 110, line 29, *for* 'self unkindled,' *read* 'self enkindled.'
Page 118, line 11, *after* 'reports are not accurate,' *insert* 'copies of things.'
Page 153, line 19, *for* 'Democritus from,' *read* 'Democritus than.'
Page 172, line 26, *for* 'doctrines subversive,' *read* 'doctrines acknowledged to be subversive.'
Page 223, line 4 from bottom *dele* γὰρ.

VOL. II.

- Page 87, line 3 from bottom, *for* ἀγεννηθῇ *read* ἐγγεννηθῇ.
Page 118. The ten categories in the translation have been displaced from their order by the word *substance* having fallen out, and having been placed last instead of first. They should run thus: 'substance, quantity, quality,' and so on. The mistake only occurs in some copies issued before it was discovered.
Page 222, line 20, *dele* 'as yourself.'
Page 224, line 10, *for* 'any account,' *read* 'any detailed account.'

APPENDIX

The passages from the 'Gorgias' are not strictly to be called translations. They are taken from the analyses of Plato from dialogues mentioned vol. i. p. 9.
The passage from the 'Ion' is from Shelley's translation.

A BIOGRAPHICAL
HISTORY OF PHILOSOPHY.

By G. H. LEWES.

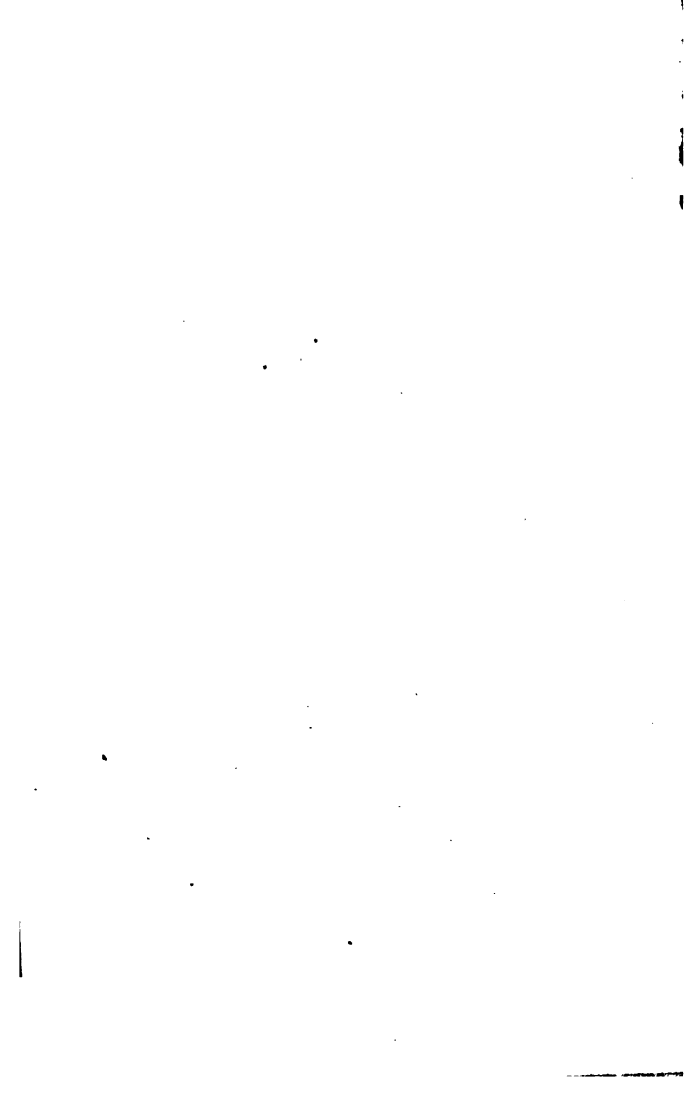
SERIES II.—FROM BACON TO THE PRESENT DAY.

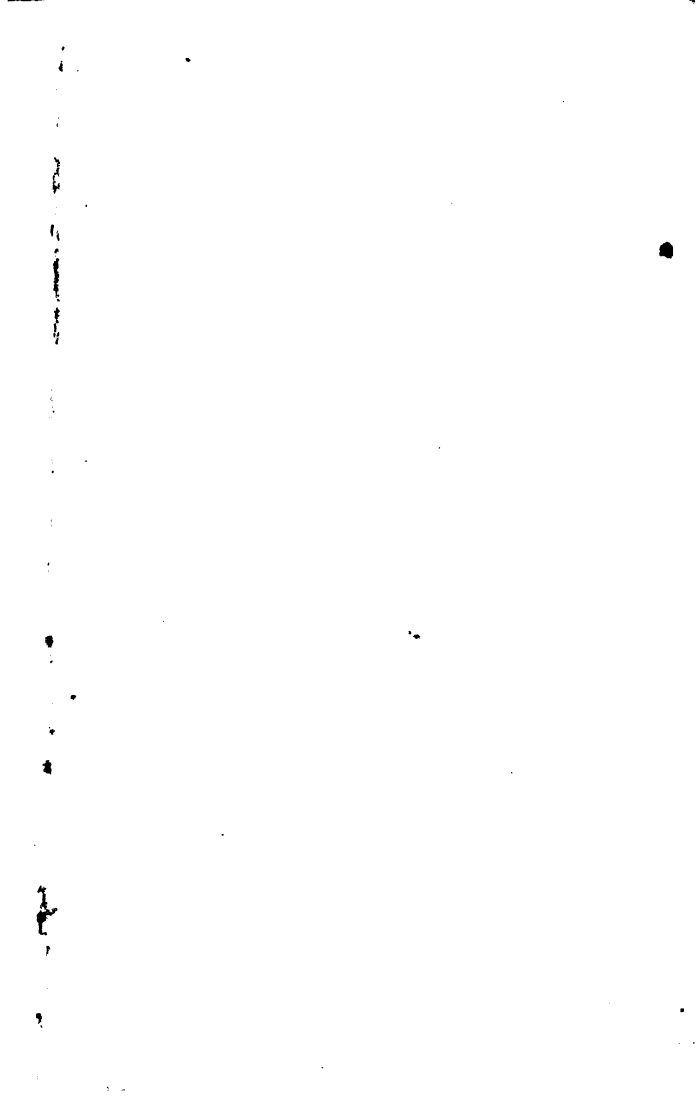
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